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TUMORS OF THE KIDNEY (GENERAL)

1. EVALUATING THE STAGE OF RENAL CELL CARCINOMA WITH RENAL ANGIOGRAPHY.

Onishi T, Masuda F, Sasaki T, Arai Y, Shoji R, Chen Z, Nakada J, Machida T
Dept. Urology, Jikei Univ. Sch. Medicine, Tokyo, Japan
Nippon Hinyokika Gakkai Zasshi; 72(4):435-444 1981

Preoperative staging of the degree of invasiveness of renal cell carcinoma by means of renal angiography (Seldinger's method) in 50 patients (33 men, 17 women; av 56 yr old) was assessed on the basis of comparisons with operative and histopathological findings. The degree of pathologic invasiveness was based on Robson's classification system (Stage I to Stage 4B), and the degree of angiographic invasiveness was based on a modified version of Lang's classification system. Overall, 45/50 patients were observed to have hypervascularity, and 5/50 had avascularity. Consistency of preoperative angiogr aphic staging of invasiveness with operative findings was analyzed by stage; 9/11 angio-Stage 1, 18/27 angio-Stage 2, 8/10 angio-Stage 3A, 1/3 angio-Stage 3B, 1/3 angio-Stage 3C, and the one angio-Stage 4A findings were thought to be accurate with respect to operative findings. The two cases that were inaccu-

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rately diagnosed as angio-Stage 1 were thought to actually be angio-Stage 2, and 4/9 cases that were inaccurately diagnosed as angio-Stage 2 were thought to be angio-Stage 1. Overall, as there was a 74% consistency between the preoperative and operative findings, the angiographic method of staging renal cell carcinoma was thought to be accurate. (21 Refs) (In JPN)

2. PALLIATIVE EMBOLIZATION IN RENAL TUMOURS USING CONTRAST-LABELED MATERIALS. FOLLOW-UP OBSERVATION BY ANGIOGRAPHY AND COMPUTED TOMOGRAPHY.

Weber J, Novak D, Kult K, Leichtweiss I
Strahlendiagnostische Abteilung Allgemeines, Krankenhaus Altona, Paul Ehrlich-Str. 1, 2000 Hamburg 50, W. Germany
Ann Radiol (Paris); 24(5):400-403 1981

Palliative transcatheter tumor embolization was performed in 52 patients having non-operable renal cell carcinoma. The following embolizing substances were used: particulate fibrospum and tachotop, semi-liquid ethibloc and liquid acrylate. In addition the Gianturco-coil was combined with embolization of sponge particles. Radio-opacity for long-term observations was achieved by labeling of the liquid and semi-liquid substances with lipiodol, ethyl monoiodostearate and iofendylate. The angiographic control of the therapeutic results was attempted 3 14 days after the interventional procedure and was realized in 33 patients, showing recanalization collateral circulation to the tumor-bed in 7 cases. Re-embolization therefore was executed within the same session. Non-invasive follow-up CT and sonography then helped to observe the long-term changes within and around the tumor-bed. The analysis of a 2 yr observation confirms the value of re-angiography for the short-term follow-up. Computed tomography is a reliable procedure for the further non-invasive follow-up of patients. (Author abstract) (30 Refs)

3. THE VALUE OF ANGIOGRAPHY, SONOGRAPHY AND COMPUTED TOMOGRAPHY IN FOLLOW-UP STUDIES AFTER PALLIATIVE RENAL TUMOR EMBOLIZATION.

Weber J, Novak D, Leichtweiss I, Kult K
Strahlendiagnostische Abteilung, Allgemeines Krankenhaus Altona, Paul-Ehrlich-Strasse 1, D-2000 Hamburg 50, W. Germany
Urologe [A]; 20(4):177-183 1981

In 40 patients (25 women, 15 men, av age 59 yr) with inoperable hypernephroma palliative kidney embolization was conducted. In seven patients the Gianturco Andersen Wallace spiral (GAW) was employed in addition to the embolization material. Angiographic follow-up examination revealed satisfactory results in 26/33 patients. In 7/33 patients reembolization was necessary. Computer tomography (CT) was perform ed in 24 patients; a decrease in kidney or tumor size was indicated in 19/24 patients. In seven patients tumor infiltration into neighboring organs was revealed with CT, In early follow-up (after 8 days) CT results coincided with those of angiography and sonography. (59 Refs) (In GER)

4. RENAL CELL CARCINOMA: LONG-TERM SURVIVAL AND LATE RECURRENCE.

McNichols DW, Segura JW, DeWeerd JH
Section Publications, Mayo Clinic, 200 First St. S.W., Rochester, MN, 55905
J Urol; 126(1):17-23 1981

In a series of 506 patients with renal cell carcinoma survival was analyzed in terms of pathologic stage, histologic grade, and a combination of stage and grade. Data reveal that stage, grade and the combination are important prognostic indicators. Invasion of the renal pelvis is not an important factor in staging the disease. Women had a better survival rate than men. The prognosis for patients with dark cell tumors was no worse than that for patients with clear cell tumors when correlated with the more important factors of tumor stage and grade. Renal vein involvement alone, excluding concomitant capsular or nodal involvement, had an adverse effect on survival. Of the patients who survived 10 yr from the date of nephrectomy 11% had late recurrence. (Author abstract) (43 Refs)

5. NEW LIQUID AND SEMILIQUID EMBOLIZING SUBSTANCES FOR TUMOUR EMBOLIZATION. AN EXPERIMENTAL STUDY.

Novak D, Weber J, Wieners H, Zabel G
Diagnostic Radiology, Robert Janker Center, Bausmschulallee 12-14, D-5300 Bonn 1, W. Germany
Ann Radiol (Paris); 24(5):428-431 1981

Liquid acrylates, silicones and polyurethanes were labeled with 11 different contrast agents and used for experimental embolization of post-mortem kidneys. For the embolization standard, coaxial, balloon and coaxial-balloon catheters were tested. It was found that the best labeling was achieved with iofendylate. Acrylates occluded more proximal arterial branches, but silicones and polyurethanes filled out the total arterial bed, small peripheral vessels included. Using silicones and polyurethanes the occlusion of vessels was homogenous and complete. It seems that radio-opaque and liquid embolic agents with preprogrammed polymerization time (acrylates) and vulcanization time (silicones and polyurethanes) are suitable embolic agents for long-term transcatheter embolization. (Author abstract) (9 Refs)

6. PHASE II STUDY OF VINBLASTINE-CCNU, TRIAZINATE, AND DACTINOMYCIN IN ADVANCED RENAL CELL CANCER.

Hahn RG, Begg CB, Davis T
Medical Oncology and Internal Medicine, Mayo Clinic, Rochester, MN, 55901
Cancer Treat Rep; 65(7/8):711-713 1981

A total of 133 patients with advanced or metastatic adenocarcinoma of the kidney were stratified according to performance status and time from initial diagnosis to recurrence and were then r andomized to one of three different drug treatment arms or the crossover secondary treatment. The study drugs (combination vinblastine-lomustine and single-agent triazinate or dactinomycin) failed to provide any meaningful antitumor activity for these patients with advanced renal cell cancer. (Author abstract) (7 Refs)

7. MODERN PREREQUISITES FOR PROGESTIN THERAPY OF KIDNEY NEOPLASMS (MEETING ABSTRACT).

Concolino G, Marocchi A, Di Silverio F, Tenaglia R
Clinica Medica V, Universita di Roma, Rome, Italy
Tumori; 67(2,SupplA):211 1981

It is now known that the hormone-dependence of renal adenocarcinoma, both experimental and human, has been powerfully confirmed by demonstration of the presence of estradiol receptors (ER) and progesterone receptors (PR) in the tumor mass, as was also recently reported for human renal adenocarcinoma by Li et al. It was further reported that in mouse kidney progestins have an androgenic action mediated by nu-

clear (non cytosolic) androgen receptors (RAn). Since 1976 we have hypothesized that the effect of medroxyprogesterone acetate (MPA) on tumor growth might be attributable to an androgenic action of progestins. With this in mind the tests performed to measure cytosolic androgen receptors (RAc) in 37 renal adenocarcinomas were extended to include RAn determination in 14 neoplasms to provide a more direct parameter of hormone responsivity to MPA. RAc were found in 19 (51.4 per cent) out of 37 and RAn in 8 (57.1 per cent) out of 14 neoplasms examined. These findings not only contribute to further confirming the hormone dependence of renal carcinoma, but can be of great assistance in selecting patients responsive to MPA. In fact the androgen activity of MPA in patients with RAn-positive neoplasms might counteract the tumor growth promoting action of the estrogens proper. (3 Refs) (In ITA)

8. TREATMENT OF RENAL CARCINOMA: A PHASE III RANDOMIZED TRIAL OF ORAL MEDROXYPROGESTERONE (PROVERA), HYDROXYUREA, AND NAFOXIDINE.

Stolbach LL, Begg CB, Hall T, Horton J
Dept. Public Health, Pondville Hosp., PO Box 111, Walpole, MA, 02081
Cancer Treat Rep; 65(7/8):689-692 1981

Seventy patients with metastatic renal carcinoma were randomized to receive hydroxyurea, nafoxidine, or medroxyprogesterone (Provera) po. Sixty patients were considered evaluable, with a response rate of 5% for medroxyprogesterone (1 complete remission) and hydroxyurea (1 partial remission) and a response rate of 16% for nafoxidine (2 complete remissions and 1 partial remission). Differences in response rates and duration of survival were not statistically significant. The major toxicity observed with hydroxyurea was hematologic, and the major toxic effect of nafoxidine was an ichthyosis-like skin rash. Toxicity for medroxyprogesterone was minimal. (Author abstract) (8 Refs)

9. IN VIVO AND IN VITRO EFFECTS OF XENOGENEIC IMMUNE RIBONUCLEIC ACID IN PATIENTS WITH ADVANCED RENAL CELL CARCINOMA: A PHASE I STUDY.

Richie JP, Wang BS, Steele GD, Wilson RE, Mannick JA, Catalona WJ
Dept. Surgery/Urology, Peter Bent Brigham Hosp, Harvard Medical Sch., Boston, MA
J Urol; 126(1):24-28 1981

Based upon demonstration in our laboratory of repeated prevention of pulmonary metastases by adjuvant immune RNA in animal preparations, xenogeneic immune RNA was given in a phase I study to patients with advanced renal cell carcinoma. Six patients were treated with iv infusions of autologous lymphocytes incubated in vitro with immune RNA extracted from splenocytes of guinea pigs immunized with the patient's own tumor. Serial peripheral blood lymphocytes were obtained during and after each treatment with immune RNA for in vitro evaluation of cell-mediated cytolysis by 51Cr release assay and 125-I iododeoxyuridine assay against allogeneic renal cell carcinoma targets and melanoma targets. Neither toxicity nor enhancement of tumor growth was observed. All patients demonstrated significantly increased cell-mediated cytolysis against allogeneic renal cell carcinoma targets but no change against melanoma targets. Increased cell-mediated cytolysis could be demonstrated in individual blood samples after incubation with immune RNA. Further, progressive in vivo effect was demonstrated in in vitro assay of serial peripheral blood lymphocytes before each successive exposure to immune RNA. Increased cell-mediated cytolysis persisted in peripheral blood lymphocytes up to 9 mo after therapy. Although without controls one patient had complete response and two patients had partial responses (8 to 18 mo). Two patients had stabilization of the disease for 3 to 4 mo and one patient had progression of cerebral metastases. One patient is alive 24 mo after therapy. These results would favor the institution of a randomized prospective trial in patients with advanced renal cell carcinoma or lesser tumor burdens. (Author abstract) (25 Refs)

10. THE CLINICAL COURSE IN PATIENTS WITH RENAL CARCINOMA SUBJECTED TO EXTRACORPOREAL IMMUNOADSORPTION.

Wolf H, Langvad E, Hyden H
Dept. Urology, Hvidovre Univ. Hosp., 2560 Hvidovre, Denmark
Br J Urol; 53(2):89-94 1981

The clinical course in four patients with renal carcinoma stages II, III or IV subjected to periods of extracorporeal immunoadsorption is reported. By this technique we have previously demonstrated that it is possible to isolate and remove circulating tumor associated antigens from the blood stream. The removal of these antigens should, according to present-day concepts, make it possible to control 'antigenic inhibition' and/or 'blocking', thus facilitating the immune mediated destruction of residual tumor cells in advanced disease. The clinical course in these patients, however, did not differ from the expected clinical course in other such patients. The failure of extracorporeal immunoadsorption to alter the natural course of the disease may be due either to too large a tumor burden or to the possibility that spontaneous tumors during evolution and progression become independent of immune restriction. (Author abstract) (12 Refs)

11. ADVANCED RENAL CELL CANCER.

Garnick MB, Taylor D, Levey A, Cohen JJ, Harrington JT, Miller K, Hricik D
Div. Medical Oncology, Sidney Farber Cancer Inst., 44 Binney St., Boston, MA, 02115
Kidney Int; 20(1):127-136 1981

The basic biologic aspects of renal cell cancer (RCC: renal adenocarcinoma) and the management of advanced stages of the disease are discussed, taking into account new, investigational therapeutic approaches. Pathological subtypes of RCC, the most common cancer arising from the kidney in adults, include clear cell, granular cell, and spindle tumors. The most common clinical presentation of patients with RCC and the staging characteristics of RCC are described. The time from initial examination to presentation of metastatic disease has been found to be a good indicator of survival. A multidisciplinary approach for the treatment of advanced RCC is described. Surgery has a dual role in the management of patients with Stage IV RCC: surgical removal of involved kidney and pulmonary 'nodulectomy.' The use of hormonal therapy of RCC is discussed. Single drugs and combinations of chemotherapeutic agents that are used with or without hormonal or immunologic adjuncts in the treatment of RCC are considered. Innovative chemotherapeutic approaches (optimization of chemotherapeutic drug schedules using the principles of cell kinetics, the use of methylglyoxal-bis-guanylhydrazone, and continuous infusion chemotherapy) to the treatment of RCC are described. The use of immunotherapy to treat RCC is discussed. The evaluation and treatment of a 47-yr-old man with Stage IV RCC is described. (95 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

12. INVERTED PAPILLOMA OF THE URETER.

Fromowitz FB, Steinbcok ML, Lautin EM, Friedman AC, Kahan N, Bennett MJ, Koss LG
Dept. Pathology, Montefiore Hosp. and Medical Center, Albert Einstein Coll. Medicine, Bronx, NY
J Urol; 126(1):113-116 1981

We report two cases of inverted papilloma of the ureter with clinical, radiographic and pathologic correlations. Although the inverted papilloma is probably best regarded as a benign epithelial proliferation true urothelial neoplasia may be associated with it. This sequence was illustrated in one of our cases in which adenocarcinoma of the bladder developed several mo after removal of the ureteral inverted papilloma. The association and structural similarity of Brunn's nests and cystitis cystica with inverted papilloma are discussed. (Author abstract) (21 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

13. ULTRASONOGRAPHIC ASSESSMENT OF BLADDER TUMORS. I. TUMOR DETECTION.

Itzchak Y, Singer D, Fischelovitch Y
Dept. Diagnostic Ultrasound, Chaim Sheba Medical Center, Tel Aviv Univ., Tel-Hashomer, Israel
J Urol; 126(1):31-33 1981

A total of 37 patients with 71 bladder tumors underwent ultrasonographic examination in an attempt to evaluate its accuracy in detection of bladder tumors. Accurate detection depended on the size and location of the neoplasm. Bladder tumors less than 0.5 cm in diameter, regardless of location, as well as those of any size located in the bladder neck or dome areas were difficult to detect. On the other hand, diagnostic accuracy was 95% for tumors more than 0.5 cm in size and situated on the posterior or lateral walls of the bladder. Thus, ultrasound is an additional diagnostic tool for detection of bladder tumors and is indicated in those cases in which cystoscopy could not be done or was not conclusive. (Author abstract) (8 Refs)

14. ULTRASONOGRAPHIC ASSESSMENT OF BLADDER TUMORS. II. CLINICAL STAGING.

Singer D, Itzchak Y, Fischelovitch Y
Dept. Diagnostic Ultrasound, Chaim Sheba Medical Center, Tel Aviv Univ., Tel-Hashomer, Israel
J Urol; 126(1):34-36 1981

Uniformity of the echo return from the bladder wall has been demonstrated in experimental and patient studies. An infiltrating bladder tumor disrupts this uniformity. The studies also showed a sharp bladder wall outline that was less echogenic, probably representing the perivesical fat. Thus, the ultrasonographic estimation of tumor staging was related to the depth of infiltration of the bladder wall. A staging accuracy of nearly 100% was found for deep tumors of the bladder wall or those penetrating extravesical structures. On the other hand, many superficial tumors were overstaged, their staging accuracy being only slightly higher than 55%. However, in view of its accuracy in staging infiltrating tumors, in addition to its other already known advantages, ultrasound seems to be the method of choice in preoperative staging of tumors. We believe that it should be included in the routine protocol and should follow diagnostic cystoscopy in all cases of tumors larger than 0.5 cm. (Author abstract) (6 Refs)

15. FREQUENCY OF RECURRENCES AND TUMOR PROGRESSION OF SUPERFICIAL BLADDER CARCINOMAS.

Rubben H, Dahm HH, Lutzeyer W
Abteilung fur Urologie, Medizinische Fakultat Aachen, Goethestrasse 27/29, D-5100 Aachen, W. Germany
Urologe [A]; 20(4):211-214 1981

The case histories including a 3-yr follow-up of 315 patients with superficial carcinoma of the urinary bladder were evaluated. The total recurrence frequency within 3 yr was 64%. A direct correlation between the degree of infiltration, type and localization of the tumor and the development of recurrences could be established. The recurrence rate of solitary tumors was 45%, that of multiple tumors 73%. A first recurrence was found in 45% of the patients with primary tumors. In 84% of those patients a second recurrence was found. Tumor progression was studied in 274 cases. Progression rate was highest in multiple tumors of both the Ta and T1 type (43% and 46%, respectively). (17 Refs) (In GER)

16. CARCINOMA OF THE BLADDER TREATED BY INTERSTITIAL IRRADIATION.

Williams GB, Trott PA, Bloom HJ
Urology Unit, Royal Marsden Hosp. and Inst. Cancer Res., London, England
Br J Urol; 53(3):221-224 1981

A retrospective study is presented of 180 patients with clinically infiltrating transitional cell carcinoma of the bladder treated by interstitial irradiation. The cases were reclassified by clinical tumor extent and histopathological grade according to the UICC (1978) classification. The actuarial survival rates and complications are presented and treatment policy reviewed. (Author abstract) (6 Refs)

17. ABSORPTION OF DOXORUBICIN HYDROCHLORIDE DURING BLADDER WASHINGS IN TREATMENT OF NONINVASIVE BLADDER TUMORS.

Lundbeck F, Pedersen D, Stroyer I, Uldall A
Dept. Radiotherapy and Oncology, Clinical Chemistry, Herlev Univ. Hosp., Herlev, Denmark
Urology; 18(2):161-163 1981

The absorption of doxorubicin hydrochloride (adriamycin) in or through the urothelium has been determined as the difference between the instilled amount and the amount recovered after complete drainage of the bladder in nine patients suffering from superficial urinary bladder tumors (grade I-II). A total of 22 absorption experiments were done. The relative deficit was found to be between 0 and 16% (median 4%). One of the reasons for the variations in the relative deficit was probably intravesical bleedings. One hundred seventy-two micro mol (100 mg) doxorubicin was dissolved in 100 ml isotonic saline and the instilled liquid was retained in the bladder for 1 hr. No patient showed any sign of systemic side effects caused by doxorubicin. The results seem to indicate that it is possible to use a dose for intravesical instillation which is five times as high as the max dose for iv administration-950 micro mol/m2 (550 mg/m(2)). (Author abstract) (8 Refs)

18. SPECIFIC RED CELL ADHERENCE: IMMUNOLOGIC EVALUATION OF RANDOM MUCOSAL BIOPSIES IN CARCINOMA OF THE BLADDER.

Stein BS, Reyes JM, Petersen RO, McNellis D, Kendall AR, Soloway MS
Dept. Urology, Temple Univ. Health Science Center, Philadelphia, PA
J Urol; 126(1):37-40 1981

We studied 103 random biopsies from patients with overt transitional cell carcinoma of the bladder for specific red cell adherence. We evaluated 62 random biopsies from patients whose primary tumors were positive for specific red cell adherence and 100% of the biopsies in these patients also were positive for specific red cell adherence regardless of the pathologic finding in the random biopsy. We evaluated 41 random biopsies from patients whose primary bladder tumors were negative for specific red cell adherence and only 27% of all biopsies in this group of patients were positive for specific red cell adherence. Thus, we found that in 92 of the 103 random biopsies (89%) the specific red cell adherence of the biopsy agreed with that of the primary tumor. The loss of red cell antigens in random biopsies that are histologically normal may prove to be the earliest measurable changes of the malignant potential of the urothelium. (Author abstract) (24 Refs)

19. PRACTICAL UTILITY OF SPECIFIC RED CELL ADHERENCE TEST IN BLADDER CANCER.

Catalona WJ
Jewish Hosp. St. Louis, 4960 Audubon Ave., St. Louis, MO, 63110
Urology; 18(2):113-117 1981

There is a highly significant correlation between specific red cell adherence (SRCA) tests for ABO(H) blood group antigens and the biologic potential of a bladder cancer in terms of both superficial tumor recurrences and the subsequent development of invasive cancer. The correlation with superficial recurrences is of limited practical value because almost one half of patients with antigen-positive tumors have superficial recurrences. Similarly, because in approx one third of patients with SRCA-negative tumors invasive cancer does not develop, SRCA tests cannot be used to select patients for early cystectomy. Because invasive cancer proceeds to develop in less than 10% of patients with high-grade, antigen-positive tumors, SRCA tests may be of use to identify patients with high-grade tumors who deserve a trial of conservative therapy. SRCA tests must be interpreted with caution in patients who have been treated previously with radiation therapy or thiotepa, in whom false positive tests may occur, and in patients with type O blood in whom false negative tests may occur. (Author abstract) (11 Refs)

20. DETECTION OF ABH TISSUE ISOANTIGENS BY IMMUNOPEROXIDASE METHODS IN NORMAL AND NEOPLASTIC UROTHELIUM. COMPARISON WITH THE ERYTHROCYTE ADHERENCE METHOD.

Coon JS, Weinstein RS
Dept. Pathology, Rush-Presbyterian-St. Luke's Medical Center, 1753 West Congress Parkway, Chicago, IL, 60612
Am J Clin Pathol; 76(2):163-171 1981

The expression of the ABH blood group antigens (BGAg) by carcinomas of the urinary bladder at the time of initial biopsy heralds a relatively benign clinical course, whereas antigen deletion in histologically similar tumors is often predictive of tumor recurrences and invasion. The use of BGAg as a tumor marker in the clinical setting has been limited by difficulties in demonstrating BGAg in tissue sections with the erythrocyte adherence test, especially for antigen H. In this study, immunoperoxidase methods were used to detect BGAg in deparaffinized tissue sections of normal and malignant human urothelium, and the results were compared with those of the erythrocyte adherence test performed on adjacent sections. Results with the two methods were similar for antigens A and B; however, a novel lectin-antilectin immunoperoxidase method was clearly superior for detecting antigen H. The immunoperoxidase method significantly reduced false-positive test results for antigen deletion in normal urothelium and more accurately predicted the subsequent clinical course in patients having urinary bladder cancer. (Author abstract) (32 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

21. THE RATE OF THE SUPERSCAN IN PATIENTS WITH CARCINOMA OF THE PROSTATE (MEETING ABSTRACT).

Perkins AC, Hardy JG, Wastie ML, Clifford KM
University Hospital, Nottingham, England
Nucl Med Comm; 2(2):109 1981

Bone imaging has been carried out in 132 patients undergoing estrogen therapy for carcinoma of the prostate. Seven patients (5%) on presentation, had uniformly increased uptake throughout the skeleton with absent or faint kidney outlines (superscans). Follow up bone imaging was undertaken for periods of up to 14 mo, the results being quantified in each case. From this series 2 patterns have become evident. In 4 patients the follow up images progressed to a patchy appearance typical of metastatic bone disease. The bone images of the other 3 patients, however, retained their uniform appearances and could have been misinterpreted as normal. On presentation the av uptake in the lumbar vertebrae of these patients, expressed as a 'standardized count' was 23.09 +/-3.78 (normal range 10.70 +/-2.88) and in the lower thoracic vertebrae 22.17 +/-5.23 (normal range 9.77 +/-2.74). In general the 'standardized counts' decreased on follow up, but in all cases remained above the normal range. All patients had abnormal bone radiographs, but normal renal function. (no Refs)

22. ESTRADIOL-3-DANSYLATE USED AS A FLUORESCENT HISTOCHEMICAL STAIN, A POSSIBLE PROGNOSTIC AID FOR NONDISSEMINATING PROSTATIC CARCINOMA.

Van Dalen JP
Dept. Cytology, Rotterdamsch Radio-Therapeutisch Instituut, Groene Hilledijk 301, Rotterdam, 3075 EA, The Netherlands
J Surg Oncol; 17(4):373-378 1981

Transperineal biopsies of prostate carcinomas were histochemically stained with estradiol-3-dansylate, a fluorescent stain. About half of the carcinomas were stainable but carcinomas with distant metastasis showed a lower staining percentage than carcinomas without distant metastasis. The combination of a positive estradiol-3-dansylate staining and a well-to-moderate differentiation of the tumor seems to indicate a low chance of developing metastasis in the future. If this correlation could be confirmed in following studies, it would mean that about one-third of patients with localized prostatic carcinoma may be indicated by a transperineal biopsy with this method, as having a low risk for future metastasis. (Author abstract) (3 Refs)

23. STAGE A PROSTATE CANCER FROM PATHOLOGIST'S VIEWPOINT.

Golimbu M, Glasser J, Schinella R, Morales P
Dept. Urology, Pathology, New York Univ. Medical Center, 530 First Ave., New York, NY, 10016
Urology; 19(2):134-136 1981

Four hundred sixty-five departments of pathology in the United States were asked the following questions pertaining to Stage A prostatic cancer: (1) If a focus of adenocarcinoma is incidentally found in an enucleated specimen, what is the max diameter such a lesion may attain and still be considered an A-1 prostatic carcinoma? (2) If adenocarcinoma is incidentally found in a specimen resected transurethrally, how many chips may contain tumor and the lesion still be considered A-1 prostatic carcinoma? (3) What is your 'routine pathologic examination' of a prostatic specimen? The majority of pathologists believe that the max diameter of a focal (A-1) lesion in an enucleated specimen is 5 mm, and the max number of transurethral chips containing tumor in a focal (A-1) lesion is three. The majority of pathologists section every chip when the specimen weighs less than 10 g. However, only 12% of the pathologists section every chip when the specimen is greater than 10 g, while the others use a random section technique. There is a great diversity of techniques among pathologists an their methods of examining enucleated prostatic specimens. (Author abstract) (11 Refs)

24. THE MANAGEMENT OF TRANSITIONAL CELL CARCINOMA IN THE PROSTATE.

Wolfe JH, Lloyd-Davies RW
(c/o Lloyd-Davies) Dept. Urology, St. Thomas' Hosp. Medical Sch., Lambeth Palace Road, London SE1 7EH, England
Br J Urol; 53(3):253-257 1981

Transitional cell carcinoma of the prostate is a rare tumor. A review of 318 patients with carcinoma of the prostate presenting to this hospital in the 5 yr between April 1974 and April 1979 revealed 7 patients with transitional cell carcinoma arising within the prostate. Two of these had previously been treated for a transitional cell carcinoma of the bladder. These prostatic tumors are usually poorly differentiated and carry a poor prognosis. Early radical surgery, however, achieved a good result in one of our patients. Other forms of treatment were ineffective and a review of the literature revealed that this was also the experience of others. We suggest that cystoprostatectomy should be considered as an early form of treatment. (Author abstract) (16 Refs)

25. PROSTATIC CARCINOMA: TREATMENT WITH I125 INTERSTITIAL IRRADIATION AND PELVIC LYMPHADENECTOMY.

Mebust WK, Weigel JW, Reddy EK
Dept. Surgery, Univ. Kansas Sch. Medicine, 39th and Rainbow Blvd., Kansas City, KS, 66103
J Kans Med Soc; 82(6):278-281 1981

Treatment of patients with prostatic carcinoma confined to the prostate includes pelvic lymphadenectomy and 125I, and in patients with positive nodes, supplementary external beam irradiation to the pelvic and periaortic nodes. A total of 50 patients (41-77 yr old) with stages A2, B1, and C prostatic carcinomas were treated. The av time of operation was 3.5 hr. This was the combined time for completion of the pelvic lymphadenectomy plus the insertion of the 125I pellets into the prostate. The technic of insertion of 125I needle is illustrated. Seventeen patients had 21 postoperative complications, the most common being transient scrotal or leg edema in 8 patients and prolonged drainage from the retropubic space in 4 patients. The av hospital stay was 10 days. In the postoperative period, all of the patients developed marked swelling and induration of the prostate but this subsided in the majority by 1 yr. Delayed complications included edema of the legs (8 patients), dysuria and urinary frequency (9 patients), and impotence (1 patient). The role of post-therapy prostatic biopsy is discussed. (5 Refs)

26. 15 YEARS OF THERAPY WITH CYPROTERONE ACETATE (CPA) (MEETING ABSTRACT).

Di Silverio F, Tenaglia R, Concolino G, Bracci U
Universita delgli Studi di Roma, Rome, Italy
Tumori; 67(2,SupplA):211 1981

Cyproterone acetate, used by us since 1966 in the treatment of advanced carcinoma of the prostate, has increasingly proven the drug of choice in hormone-responsive forms. Its activity (1) considerably reducing plasma testoterone, (2) luteinizing hormone and follicle-stimulating hormone, (3) inhibiting 17-20 desmolase in the adrenals, (4) proven prevention of delta 4 conversion to dihydrotestosterone (DHT), and (5) inhibition of DHT complexing with its receptors, categorizes its as a powerful antiandrogenic drug. In 15 yr the authors have evaluated its action clinically (performance status, subjective and objective response to urination disorders), local tumor response (clinically and echographically) and systemic response, and lastly, its extraordinary reliability with an almost absolute absence of toxic side effects. Our experience is based on more than 500 patients in stages II-III and IV (Vacurg) whose staging was performed in advance. The 5, 10, and 15 yr survivals of certain homogeneous groups of patients are discussed. The authors stress the rational and targeted use of cyproterone acetate in patients classified according to age and degree of cellular differentiation of the neoplasm. (no Refs) (In ITA)

27. EFFECTS OF CYPROTERONE ACETATE ON CARDIOVASCULAR RISK FACTORS IN PATIENTS WITH CARCINOMA OF THE PROSTATE.

Varenhorst E, Karlberg BE, Risberg B, Wallentin L, Wranne B
Urologische Klinik, Universitat Linkoping, Regionsjukhuset, S-581 85 Kinkoping, Sweden
Urologe [A]; 20(4):218-222 1981

In 15 patients (av age 70 yr) with advanced prostate carcinoma who were treated with cyproterone acetate (CPA) (200 mg/day) the blood and plasma vol was shown to be unchanged. Excretion of 24 hr urine and sodium was temporarily increased as well as the fibroid activity. The lipoprotein fractions HDL and LDL and the HDL/LDL quotient were decreases. The results indicated in general that CPA treatment does not increase cardiovascular risks and that the risk of thrombosis is even decreased. (31 Refs) (In GER)

28. FLUTAMIDE IN THE TREATMENT OF METASTATIC CARCINOMA OF THE PROSTATE.

Narayana AS, Loening SA, Culp DA
Dept. Urology, Univ. Iowa Hosp. and Clinics, Iowa City, IA, 52252
Br J Urol; 53(2):152-153 1981

Twenty-five patients with metastatic carcinoma of the prostate were treated with Flutamide, a nonsteroidal anti-androgen. All patients showed progression; the longest response was 120 wk. The side effects were nausea, vomiting, breast tenderness and gynecomastia. (Author abstract) (4 Refs)

29. INHIBITORY EFFECTS OF CHRONIC ADMINISTRATION OF A POTENT LHRH AGONIST, [D-SER(TBU)6, DES-GLY-NH2 10] LHRH ETHYLAMIDE (BUSERELIN), ON SERUM ANDROGENS IN PATIENTS WITH CANCER OF THE PROSTATE (MEETING ABSTRACT).

Faure N, Lemay A, Belanger A, Raynaud JP, Van der Ohe M
Laboratory Reproduction Endocrinology, St. Francois d'Assise Hospital, Quebec, Canada
63rd Annual Meeting of the Endocrine Society, June 17-19, 1981, Cincinnati, Ohio. The Endocrine Society 385 pp., 1981.

In preliminary studies performed in normal young adult men, we have observed that a maximal luteinizing hormone (LH) response to the luteinizing hormone releasing hormone (LHRH) agonist Buserelin (Hoe-766) occurs at a dose ranging between 200 and 500 ug by the intranasal route. After a transient increase observed during the day of treatment, single intranasal administration of the peptide induces a decrease of serum 17-OH-progesterone and testosterone levels which last for 1 to 3 days with a return to normal values at later time intervals. We then administered the peptide by nasal spray at the twice daily doses of 200 or 500 ug in a group of patients with cancer of the prostate for periods of 3 to 8 mo. A second group of patients received one daily sc injection of 50 ug of the same peptide for periods of 1 to 6 mo. After a latency of 1 to 3 wk, serum testosterone concentration decreased to 5 to 50% of control as measured at 0800, 1500 and 2100 hr weekly during the treatment period. The LH response to the analog showed an almost complete inhibition in most patients and the basal LH levels were slightly decreased in most cases. Although chronic administration of Buserelin by the intranasal route inhibits serum testosterone levels, the inhibition observed after treatment by the sc route is more complete and consistent. The present data indicate that chronic administration of Buserelin alone or in combination with an antiandrogen could become the treatment of choice in cancer of the prostate and perhaps in benign prostatic hypertrophy. (no Refs)

30. LEUKAEMIC INFILTRATION OF THE PROSTATE.

Merimsky E, Baratz M, Kahn Y
74 Jabotinsky St., 62749 Tel-Aviv, Israel
Br J Urol; 53(2):150-151 1981

A biopsy of the prostate should be done in lymphoma/leukemic patients suffering from urinary obstruction. Patients with a lymphomatous infiltration of the prostate should be irradiated and not subjected to surgery. Two such cases successfully irradiated are described and the present literature is reviewed. (Author abstract) (10 Refs)

31. CORRELATION OF CANCER TISSUE DHT LEVELS WITH CLINICAL REMISSION IN ADVANCED PROSTATE CANCER (MEETING ABSTRACT).

Geller J, Albert J, Nachtsheim DA, Loza D, Geller S
Mercy Hospital and Medical Center, San Diego, CA, 92103
63rd Annual Meeting of the Endocrine Society, June 17-19, 1981, Cincinnati, Ohio. The Endocrine Society 385 pp., 1981.

To study the value of measuring tissue steroid levels in prostate cancer tissue as a means of predicting initial response to therapy, we have measured tissue dihydrotestosterone (DHT) levels in 27 prostate cancer patients (2 Stage C, 25 Stage D) who have been evaluated objectively over six or more mo in regard to clinical response to either estrogen, castration or other antiandrogen therapy. We chose as our criteria for predicting hormone-dependent tumors a DHT concentraton greater than 2.0 ng/g since DHT levels av 5.0 ng/g with no value less than 2.5 ng/g in benign prostate tissue of patients in the cancer age group while non-androgen target tissues av 0.8 ng/g with no value higher than 1.8 ng/g. Twenty-two out of 23 patients who had initial remissions on antiandrogen therapy and were either in partial objective regression or objectively stable for six or more mo had DHT levels greater than 2.0 ng/g in prostate cancer tissue. Three out of four patients with objective progression and no response to antiandrogen therapy had DHT levels of less than 2.0 ng/g. In more recent studies we have also measured prostatic acid phosphatase (PAP) and androgen cytosol and nuclear receptors in prostate cancer tissue. Prostate cancer tissue DHT levels did show a significant correlation with tissue levels of PAP but not with either cytosol or nuclear receptor. These preliminary studies indicate that prostate cancer DHT levels accurately predict the initial clinical response to antiandrogen therapy in patients with advanced prostate cancer. (no Refs)

32. PROSTATIC-SPECIFIC ANTIGEN: AN IMMUNOHISTOLOGIC MARKER FOR PROSTATIC NEOPLASMS.

Nadji M, Tabei SZ, Castro A, Chu TM, Murphy GP, Wang MC, Morales AR
Dept. Pathology (R-1), Univ. Miami, P.O. Box 016960, Miami, FL, 33101
Cancer; 48(5):1229-1232 1981

Antiserum to a human prostate-specific antigen was raised in a rabbit and utilized by immunoperoxidase staining to evaluate its potential value as a diagnostic histologic marker for tumors of prostatic origin. All primary and metastatic prostatic malignancies reacted positively, whereas nonprostatic neoplasms did not stain with this procedure. This is the first immunohistochemical marker for prostate gland epithelium which does not represent prostatic acid phosphatase. (Author abstract) (8 Refs)

33. PROSTAGLANDIN E2 AFFECTS THE TUMOR IMMUNE RESPONSE IN PROSTATIC CARCINOMA.

Kaneti J, Thomson DM, Reid EC, Catalona WJ
(c/o Thomson), Montreal General Hosp., 1650 Cedar Ave., Montreal, Quebec H3G 1A4, Canada
J Urol; 126(1):65-70 1981

Antitumor immunity to prostatic carcinoma (PC) was assayed by the tube WBC adherence inhibition (LAI) assay. Peripheral blood WBC (PBL) from 37 patients with PC and 128 patients without PC were incubated separately with extracts from PC and from an unrelated control cancer, and the nonadherence index was calculated. The number of patients with PC who had a positive response (non-adherence index greater or equal to 30) was small. Nevertheless, the mean non-adherence index (11) of the patients with PC was statistically different (p less than 0.02) from the mean non-adherence index (2) of the subjects without PC. Of patients with PC 14% (5 of 37) had positive LAI responses, compared to 1.5% of control subjects (2 of 128) (p less than 0.05). Sixty patients diagnosed clinically as having benign prostatic hyperplasia were screened by the LAI test and the nonadherence index results then were evaluated with the histopathological diagnosis of the surgical specimen. Of the patients with benign prostatic hyperplasia three (5%) had Stage A PC, and one of these three patients (33%) had a positive LAI test. After in vitro treatment of the PBL with 10(-6) M prostaglandin E2 11 of 18 patients with PC (61%) and 1 of 35 subjects without PC (3%) had positive LAI responses. The ability of prostaglandin E2 to heighten the LAI

response of the PBL from patients with PC suggests that there is a functional defect in the antitumor response of the PBL, possibly caused in part by an excess of circulating tumor antigen. In fact, this is supported by the high mean non-adherence index (19) in patients with PC who had serum prostatic acid phosphatase within normal limits, while patients with an elevated prostatic acid phosphatase had a low mean non-adherence index (0.2). Therefore, patients with PC are expressing an antitumor response to PC but this response is weak even when the clinical stage of the disease seems to be early. (Author abstract) (25 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

34. COMPUTED TOMOGRAPHY IN TESTICULAR DISEASE: A REVIEW.

Husband JE, Macdonald JS, Peckham MJ
Royal Marsden Hosp., Sutton, Surrey, England
J R Soc Med; 74(6):441-447 1981

The value of computed tomography (CT) examinations in patients with testicular teratomas is evaluated. Staging following orchidectomy should include lymphography (LY), iv urography, standard chest radiography, whole lung tomography, CT, ultrasound, and serum marker estimations. The CT scanner used was an EMI General Purpose Scanner CT5005. CT can demonstrate enlarged abdominal nodes without the use of contrast medium, even in areas not accessible to LY. The accuracy of CT in the detection of nodal metastases is probably slightly higher than LY: only one false negative examination was found in 77 patients with CT compared with three false negatives with LY. While CT provides information which cannot be obtained by LY, LY has been used in patients with negative CT scans to detect small-vol disease not demonstrated by CT. However, this approach has distinct disadvantages during follow-up. It is recommended that LY be used on all patients immediately following orchidectomy. LY can be used during follow-up and CT can be reserved for complete assessment when a change in treatment policy is considered. CT is more sensitive than conventional radiology for detecting mediastinal lymphadenopathy and for identifying pulmonary lung nodules. Both CT and ultrasound should be used to investigate the liver. CT scanning is an essential part of the staging procedure and provides an opportunity to study changes in tumor vol and density in response to treatment. CT scanning should be performed if the site of relapse is not clearly shown on conventional radiographs. CT has important implications for radiotherapy treatment planning. (32 Refs)

35. THE DIAGNOSTIC AND THERAPEUTIC VALUE OF SECOND LOOK OPERATION IN PATIENTS WITH TESTICULAR GERMINAL CELL TUMOR.

Behrendt H, Brehmer B, Hossfeld DK
Urologische Universitats-Klinik, Gesamthochschule Essen, Hufelandstrasse 55, D-4300 Essen 1, W. Germany
Urologe [A]; 20(4):231-233 1981

Second look surgery was conducted in 32 patients (17-55 yr old; av age 31 yr) with malignant testicular tumor. Vital tumor tissue was found in 16 patients; in 9 patients tumor tissue with inactive cells was found. The tumor markers (alpha fetoprotein, beta-human chorionic gonadotropin, and lactate dehydrogenase) had indicated false-negative results in 61.5% of the cases. The patients with vital tumors continued either the chemotherapeutic regimen or were treated radiologically. Five patients of this group died within 7 mo and two after 13 and 34 mo. In those patients in whom no vital tumor tissue was found, chemotherapy was discontinued. (2 Refs) (In GER)

36. SURGICAL RESECTION IN DISSEMINATED TESTICULAR CANCER FOLLOWING CHEMOTHERAPEUTIC CYTOREDUCTION.

Einhorn LH, Williams SD, Mandelbaum I, Donohue JP
Indiana Univ. Medical Center, 1100 West Michigan Emerson Hall 435, Indianapolis, IN, 46223
Cancer; 48(4):904-908 1981

Platinum combination chemotherapy will regularly produce a 70% complete response rate in testicular cancer. Many patients failing to achieve complete remission can still be rendered disease-free with surgical resection of residual localized disease. Twenty-one patients underwent resection for residual pulmonary lesions and 41 underwent lymphadenectomy for persistent retroperitoneal disease. There were no characteristic radiographic findings for fibrous tissue versus mature teratoma versus carcinoma. Although elevated HCG or AFP levels indicated the presence of carcinoma, negative HCG and AFP did not rule out such a diagnosis as 12 of 22 resected carcinoma patients were seronegative. Of 35 patients, 31 (89%) with fibrous tissue or mature teratomas and all 4 patients with immature teratomas have been continuously free of disease with a minimal postoperative follow-up time of 6 mo. However, only 2 of 22 patients with resected carcinomas have been continuously disease-free. Postoperative chemotherapy for mature teratoma or fibrous tissue is probably not necessary. However, we feel that further aggressive chemotherapy is needed in the resected carcinoma patient with at least two courses of platinum combination chemotherapy. Surgical resection of residual disease following chemotherapy-induced cytoreduction with platinum combination chemotherapy may be therapeutic in some cases and helps to define the optimal subsequent treatment strategy. (Author abstract) (10 Refs)

37. ADJUVANT CHEMOTHERAPY IN NON-SEMINOMATOUS TESTIS CANCER: 'MINI-VAB' REGIMEN: LONG-TERM FOLLOWUP.

Vugrin D, Whitmore WF, Cvitkovic E, Golbey RB, Williams SD
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Urol; 126(1):49-51 1981

Since 40 to 50% (range 20 to 80%) of patients with Stage II non-seminomatous germ cell tumors of the testis suffer relapse after orchiectomy and retroperitoneal lymph node dissection, relatively non-toxic adjuvant chemotherapy (consisting of vinblastine, actinomycin D, bleomycin and chlorambucil) was given to 62 patients after lymphadenectomy. Of these patients 82% remained free of disease with a 4-yr median followup and 18% had relapse. Retrospective analysis reveals that no patient (0 to 33) with Stage IIA and 38% (11 of 29) with Stage IIB disease had relapse. Patients with histologic evidence of extranodal extension of disease (N3 category) had the highest relapse rate (62%). Based on our experience we recommend that patients with resected stage IIB disease, particularly those with extranodal extension of tumor, receive aggressive adjuvant chemotherapy. (Author abstract) (16 Refs)

38. PHASE II STUDY OF ETOPOSIDE (VP-16) (MEETING ABSTRACT).

Santoro A, Moliterni A, Pizzocaro G, Monfardini S, Bonadonna G
Istituto Nazionale per lo Studio e la Cura dei Tumori, Milan, Italy
Tumori; 67(2,SupplA):162 1981

Forty-six patients with malignant neoplasms resistant to conventional therapy were treated with VP-16 in a weekly dose of 250 mg/square m iv infusion for 30 min. The patients were evaluated after 4 dose. 44 cases were evaluable for a therapeutic response, while 12 were not evaluable (therapy in progress: 6; dead within 1 mo: 3; lack of measurable parameters: 3). The principal side effect observed was marrow depression with one patient dead due to sepsis after the 2d dose of VP-16. VP-16 was used in combination with another drug (adriamycin in 2 cases; dactinomycin in 1 case) in 3 patients with testicular neoplasms resistant to conventional treatment. In 2/3 of the cases a partial remission greater than 50 per cent was obtained. Both of the responsive patients are still in treatment. (no Refs) (In ITA)

39. LASTING COMPLETE REMISSION IN PATIENTS WITH STAGE 3 CARCINOMA OF THE TESTIS TREATED WITH INFUSIONS OF VINBLASTINE AND BLEOMYCIN (MEETING ABSTRACT).

Villa E, Fossati V, Pizzocaro G, Monfardini S
Istituto Nazionale per lo Studio e la Cura dei Tumori, Milan, Italy
Tumori; 67(2,SupplA):65 1981

From July, 1975 to December, 1977, 34 consecutive patients with stage 3 carcinoma of the testis were treated with vinblastine (VLB) 8 mg/square m iv day 1 and 2 and continuous iv infusion of bleomycin (BLM) 15 mg/square m in 1000 cc of 5 per cent glucose soln for 5 consecutive days starting with day 2. This scheme was repeated every 28-35 days for 3-4 cycles. Complete remission (CR) were obtained in 18 per cent of the patients (pat) and CR + partial remissions (PR) in 79 per cent. By means of reduction surgery it was then possible to remove the residual disease in 7 pat raising the percentage of CR to 39 per cent. The disease recurred in patients in CR following chemotherapy + surgery in 5/32 pat in each case within 12 after treatment was concluded. Median survival in pat with CR has not been reached after 4 yr and is statistically better than in patients who achieved a partial response (P less than 0.01) or who did not respond to treatment. At the current moment 11 pat are alive and free of disease with a period of observation ranging from 39 to 68 mo. Toxicity consisted principally of severe leukopenia, stomatitis, paralytic ileus and osteoarticular pain. One pat died of sepsis while in agranulocytosis. In that study it was not possible to reproduce the results reported by Samuels with an equivalent dose of the drug, probably because of the high percentage of patients with advanced abdominal and pulmonary disease (91 per cent). However it has been possible to achieve a high percentage of objective responses and a long survival in pat who achieved a CR. The high percentage of PR has in addition opened the way to a better definition of the role of surgery in the treatment of advanced carcinoma of the testis at our Institute. This combination still remains a valid therapeutic alternative for patients who cannot be treated with cis-platin. (no Refs) (In ITA)

40. VAB-3 COMBINATION CHEMOTHERAPY OF METASTATIC TESTICULAR CANCER.

Reynolds TF, Vugrin D, Cvitkovic E, Cheng E, Braun DW, O'Hehir MO, Dukeman ME, Whitmore WF, Golbey RB
(c/o Golbey) Solid Tumor Service, Dept. Medicine, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 48(4):888-898 1981

The initial response and long-term follow-up of 74 evaluable patients who received combination chemotherapy for metastatic nonseminomatous testicular cancer are reported. Patients were treated with a protocol (VAB-3) including vinblastine, actinomycin-D, bleomycin, and cis-dichlorodiammine platinum (DDP). VAB-3 alone caused complete remission (CR) in 54% (40/74) and partial remission (PR) in 26% (19/74). Five patients with less than CR to chemotherapy achieved CR following surgical excision of residual mature teratoma after starting VAB-3 protocol, resulting in an overall CR rate of 61% (45/74). With a minimum follow-up of 24+ mo, and a median follow-up of 35+ mo for those still living, 45% (33/74) of the patients are living free of evidence of disease, 4% (3/74) are living with disease, and 51% (38/74) are dead. Response to VAB-3 protocol was examined with respect to performance status, histology, prior therapy, extent of disease, tumor markers and duration of disease from diagnosis. No one died because of toxicity of VAB-3, and life-threatening toxicity was uncommon. Long survival is significantly associated (p less than 0.001) with achievement of CR. The treatment goal for metastatic testicular cancer is cure. The achievement of CR, using aggressive combination chemotherapy and surgery, is essential in reaching this goal. (Author abstract) (32 Refs)

41. BLEOMYCIN, VP 16 AND CIS-PLATINUM (BEP): A LOWER TOXICITY COMBINATION FOR SELECTED PATIENTS WITH GERM CELL TUMOURS (MEETING ABSTRACT).

Barrett A, Peckham MJ, McElwain TJ
Institute of Cancer Research and Royal Marsden Hospital, London, England
First International Symposium on the Podophyllotoxins in Cancer Therapy, July 8-9, 1981, South Hampton, England. Mead Johnson 51 pp., 1981.

A regime in which vinblastine is replaced by VP 16 (etoposide) has been employed in an attempt to reduce the toxicity of cis-platinum, vinblastine and bleomycin (PVB) in patients (pts) referred with uncontrolled testicular non seminoma after unsuccessful radiation therapy. The severe gut toxicity encountered in recently irradiated pts, attributed to vinblastine, was reduced by employing the modified regime. Encouraged by this experience the three drug combination of Bleomycin, VP 16, and Cis-platinum (BEP) has been introduced as first line treatment for pts with advanced non-seminoma and seminoma of the testis and ovary and selected patients with extragonadal presentations. Testicular non-seminoma pts with bulky lung metastases and/or hepatic involvement are excluded. Of eleven pts with advanced disease receiving BEP either alone or in conjunction with radiation therapy and/or surgery 10 are alive at 8 to 22 mo. One pt died of uncontrolled disease at 14 mo and two are alive with evidence of disease. Preliminary experience indicates that hematological toxicity is not significantly different from the PVB regime, but gastrointestinal toxicity is less. It is suggested that the lower toxicity combination may prove to be of particular value in non-seminoma pts with small-vol metastases and pts over the age of 40 yr who tolerate PVB less well. (no Refs)

42. ADRIAMYCIN (ADRIA), CIS-PLATIN (CDDP) AND VP-16 SALVAGE THERAPY FOR METASTATIC TESTICULAR CANCER (MEETING ABSTRACT).

Bukowski RM, Mortimer J, Montie J, Livingston RB
Cleveland Clinic Foundation, Cleveland, OH, 44106
First International Symposium on the Podophyllotoxins in Cancer Therapy, July 8-9, 1981, South Hampton, England. Mead Johnson 51 pp., 1981.

Eleven patients (pts) with metastatic germinal cell neoplasms whose disease progressed after first line chemotherapy subsequently received a regimen of VP-16 (etoposide), ADRIA, and CDDP. The median age at diagnosis was 24 yr. As initial treatment, 8 pts received a median of 5 courses of vinblastine (VLB), bleomycin (BLEO), and CDDP, with a median duration of response of 9 mo. Two pts received their initital therapy with VLB, BLEO and radiation. One pt had only undergone surgery. Embryonal cell carcinoma was the predominant cell type in 6, seminoma in one, and teratocarcinoma in the other 4. Four tumors had elements of choriocarcinoma. Ten had marker-positive disease. All received therapy with ADRIA 35 mg/M2 IV D1, CDDP 15 mg/M2 IV D1-5 and VP-16 70 mg/M2 IV D1-5 given at 28-day intervals. Toxicity ranged from mild to severe mucositis and myelosuppression. Life-threatening, reversible neutropenia occurred in two instances. Two pts had a complete response to the regimen. Partial response was seen in 7, no response in 1, and 1 pt is too early to evaluate. Three of the 7 partial responders underwent resection of residual pulmonary teratomas rendering them free of disease. Eight of 10 pts developed normalization of tumor markers with therapy. Most importantly, the two complete and three partial responders 'converted' to complete by resection of residual disease were all failures to prior VLB, BLEO and CDDP. This represents potential long-term success in 5/7 such patients. (no Refs)

43. IV HYPERALIMENTATION AND CHEMOTHERAPY FOR STAGE III TESTICULAR CANCER: A RANDOMIZED STUDY.

Samuels ML, Selig DE, Ogden S, Grant C, Brown B
Section General Medicine and Clinical Oncology, Dept. Medicine, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Cancer Treat Rep; 65(7/8):615-627 1981

Thirty evaluable patients with Stage III metastatic testicular cancer were prospectively randomized to receive iv hyperalimentation (IVH) starting on day 1 of hospitalization. There were 16 IVH patients and 14 control patients and a total of 88 evaluable trials. The IVH patients received 35 kcals/kg/day of 25% dextrose with 4.25% amino acids, while control patients received 3 liters/day of 5% dextrose in 0.5 normal saline when gastrointestinal side effects from chemotherapy impaired the normal ingestion of food and fluids, usually by treatment day 3 or 4. Chemotherapy was started on hospital day 2 and consisted of vinblastine plus bleiomycin, with a second randomization to low-dose cisplatin (75 mg/m(2)) with the first and third courses. Four courses were programmed for each patient. IVH successfully blunted wt loss from the gastrointestinal side effects of chemotherapy. Granulocytopenia was severe in both groups. The mean leukopenia nadir, nadir day, and recovery day also showed no significant clinical differences. The control group developed two cases of bacteriologically proven septicemia, while the IVH group developed five cases of bacteriologically proven septicemia and two of pneumonia. The one death from infection was due to Klebsiella pneumoniae pneumonia, which appeared on treatment day 4 and produced death on day 8. The increased number of life-threatening infections in the IVH group was significant ($p = 0.047$). Seventy-two percent of the IVH patients were hyperglycemic during the early part of the trials and this may have been an important etiologic factor. The mean duration of IVH was 48 days for noninfected patients and 18 days for infected patients. The complete response rate for the IVH patients was 63% while the complete response rate was 79% ($p = 0.29$) for the control patients. With the addition of surgery for residual disease and secondary salvage chemotherapy, the complete response and probable cure rates are greater than 75% for the entire population. (28 Refs)

44. THE EFFECT OF INTRAVENOUS HYPERALIMENTATION ON ANTHROPOMETRIC MEASUREMENTS IN METASTATIC TESTICULAR CANCER PATIENTS (MEETING ABSTRACT).

Ogden S, Selig D, Samuels D
M. D. Anderson Hospital and Tumor Institute, Houston, TX
5th Clinical Congress, The Challenge of Modern Clinical Nutrition: Education, Practice and Research, February 2-5, 1981, New Orleans, Louisiana. American Society for Parenteral and Enteral N utrition 71 pp., 1981.

Anthropometric measurements and wt change of 30 stage III testicular cancer patients from a randomized controlled study were compared to determine the effect of iv hyperalimentation (IVH) in patients receiving chemotherapy. Stratification for previous wt loss was included in the randomization process. The control population (Group I) consisted of 14 patients receiving vinblastine, bleomycin +/- cisplatin. Group II consisted of 16 patients receiving the same chemotherapy protocol plus IVH. Triceps skinfold measurements, mid-arm muscle circumference and wt at admission and after the final course of therapy were compared. There were no significant changes in anthropometric measurements in either group. However, a significant difference in mean wt change was seen. Group I had a mean total wt loss of 9.7 kg; whereas, Group II had a mean total wt loss of only 2.3 kg (p less than .001). Although IVH had no significant affect on anthropometric measurements, it blunted the wt loss of a very toxic chemotherapy prgram. (no Refs)

45. FIVE CASES OF BILATERAL TESTICULAR TUMORS - A REVIEW OF 118 CASES IN THE JAPANESE LITERATURE.

Yoshida M, Machida T, Masuda F, Miki M, Ohishi Y, Ueda M, Yanagisawa M, Tanino M, Kishimoto K, Kawaguchi Y
Dept. Urology, Jikei Univ. Sch. Medicine, Tokyo, Japan
Nippon Hinyokika Gakkai Zasshi; 72(4):460-472 1981

Five cases of bilateral testicular tumors which were discovered from 1973-1980 were reported, and 118 cases of bilateral testicular tumors reported in Japanese literature from 1958-1980 were discussed. The five patients were 32-, 33-, 54-, and 57-yr-old men and a 7-yr-old boy. Common chief complaints included painless testicular swelling and joint pain. The tumors of the right and left testes of two of the patients showed different histology although the tumors were discovered simultaneously; in one patient the right testicular tumor was a combination of seminoma and germ-cell carcinoma and the left testicular tumor was seminoma, and in the other patient, one side was infantile type germ-cell carcinoma and the other side was seminoma. The testicular tumors of the other three men were histologically the same on both sides; one case was lymphosarcoma and two cases were seminoma. The two cases of bilateral seminoma were successive tumors and not concurrent. Of these

two cases, one had an 22-yr interval between the occurrence of the first tumor and the second tumor. (33 Refs) (In JPN)

TUMORS OF THE PENIS AND SCROTUM

46. CARCINOMA OF PENIS. REVIEW OF CASES TREATED BY SURGERY AND RADIATION THERAPY 1960-1977.

Krieg RM, Luk KH
Claire Zellerbach Saroni Tumor Inst., 1600 Divisadero St., San Francisco, CA, 94120
Urology; 18(2):149-154 1981

Cases of squamous cell carcinoma of the penis treated by surgery and radiation t herapy at Moffitt Hospital, University of California, and Mount Zion Hospital and Medical Center are reviewed. Only cases followed for more than 3 yr or with autopsy findings are presented. For the primary lesion, over-all surgical control rate locally was 15/17 or 88%. Overall control rate with radiation therapy alone was 9/12 (75%), and with surgical salvage 11/12 (92%). Radiation therapy appears to be the treatment of choice for early stage lesions, reserving surgery for salvage. Prophylactic ilioinguinal lymph node dissection for N0 lesions is not warranted. The role of chemotherapy needs further investigation. (Author abstract) (18 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

47. BEHAVIOR OF PRIMARY AND SERIALLY TRANSPLANTED ESTROGEN DEPENDENT RENAL CARCINOMA CELLS IN MONOLAYER AND COLLAGEN GEL CULTURE (MEETING ABSTRACT).

Talley DJ, Roy WA
Divisions of Biochemistry and Anatomy, Department of Basic Sciences, Marquette University Dental School, Milwaukee, WI, 53233
63rd Annual Meeting of the Endocrine Society, June 17-19, 1981, Cincinnati, Ohio. The Endocrine Society 385 pp., 1981.

The present study was undertaken to compare the behavior of isolated cells from primary and 1st-4th serially transplanted hormone-dependent tumors cultured either in monolayer or in collagen gels. Enzyme-dissociated cells from both estrogen-induced primary renal tumors in Syrian hamsters and from 1st-4th serially transplanted carcinomas contained similar progesterone receptor levels in culture. When cultured as monolayers in plastic flasks, isolated cells from primary tumors exhibited a marked decline in cell number after 4-6 days in culture. Monolayer-cultured cells from 1st and 2nd transplantation tumors remained essentially constant in cell number over a two wk culture period whereas cells from 3rd transplantation tumors underwent a 2-3 fold increase in cell number during two wk in culture. When primary tumor cells were cultured in collagen gels, the decline in cell number over a two wk period was prevented and progesterone receptor levels remained elevated. Neither cells from primary nor 1st transplantation tumors exhibited significant increases in cell number in collagen gels. Increasing the serum concentration of growth medium from 10% to 30% did not stimulate growth of cells under these conditions. Cells isolated from 4th transplantation tumors exhibited a 4-fold increase in cell number over a one-mo culture period whether cell were cultured as monolayers or in collagen gels. Progesterone receptor levels also remained elevated under both culture conditions. These data suggest that slow growing and well differentiated renal tumors which are hormone dependent require a condition supplied by collagen gels for being maintained for long periods in culture. (no Refs)

48. THE EFFECT OF INTRAVESICAL THIO-TEPA AND MITOMYCIN C ON THE NORMAL BLADDER (MEETING ABSTRACT).

Soloway MS, Murphy WM
Department of Urology, University of Tennessee Center for Health Sciences, Memphis, TN
Long Term Normal Tissue Effects of Cancer Treatment, April 13-15, 1981, Bethesda, Maryland Committe for Radiation Oncology Studies; 1981

Increasingly intravesical chemotherapy is being utilized for both definitive therapy of superficial bladder tumors as well as prophylaxis following endoscopic resection or fulguration. Critical to the evaluation of the effect of intravesical chemotherapeutic agents on tumors is the ability to monitor urinary cytology. A series of experiments were designed to determine the effect of one of these drugs, thio-tepa (TTP) on the normal and abnormal mammalian urothelium. This model allows the comparison of the entire bladder with cytologic specimen obtained prior to cystectomy. The initial study analyzed the effect of thio-tepa or saline on the normal urothelium. One, 3, 7, and 22 days after a single instillation of TTP the exfoliated cells and the bladder were examined. There were no consistent morphologic differences between the treated and control groups. The same analysis was repeated after three weekly instillations of TTP with the same results. Thus, when cells having the cytologic appearance of neoplasia are found in the urine of a patient on TTP they should not be considered due to a 'thio-tepa effect' but as malignant. A similarly designed study examined the effect of Mitomycin C (MMC) on the normal bladder using these same parameters. Once again cellular degeneration and epithelial denudation was occasionally observed but drug related nuclear changes which might be confused with malignancy were rare. (no Refs)

49. HLA-A,B ANTIGENS, IA-LIKE ANTIGENS, AND TUMOR-ASSOCIATED ANTIGENS ON PROSTATE CARCINOMA CELL LINES: SEROLOGIC AND IMMUNOCHEMICAL ANALYSIS WITH MONOCLONAL ANTIBODIES.

Ng AK, Pellegrino MA, Imai K, Ferrone S
Dept. Molecular Immunology, Scripps Clinic and Res. Foundation, 10666 North Torrey Pines Road, La Jolla, CA, 92037
J Immunol; 127(2):443-447 1981

Serologic and immunochemical analysis of the antigenic profile of the two human prostate carcinoma cell lines DU-145 and H494 with a battery of monoclonal antibodies has shown that both cell lines express HLA-A,B alloantigens and the 94,000 mol wt tumor-associated glycoprotein recognized by the monoclonal antibody 376.96S. In addition, the cell line H494 unexpected expresses Ia-like antigens, which are similar in their antigenic profile and structure to B lymphoid cell derived Ia-like antigens. Both Ia-like antigens and tumor-associated antigens can function as targets of cell-dependent lysis mediated by the corresponding monoclonal antibodies. (Author abstract) (29 Refs)

50. PROSTATIC TUMOR CELLS SURVIVING ESTROGEN TREATMENT MAY BECOME ESTROGEN-ADAPTED (MEETING ABSTRACT).

Rao BR, Fry CG, Alsup MJ
Section of Cancer Biology, Division of Radiation Oncology, Mallinckrodt Institute of Radiology, 510 S. Kingshighway, St. Louis, MO, 63110
63rd Annual Meeting of the Endocrine Society, June 17-19, 1981, Cincinnati, Ohio. The Endocrine Society 385 pp., 1981.

We previously reported that there is a relationship between estrogen concentrations and cytotoxicity on the clonogenic cells of hormone-independent, poorly differentiated Copenhagen rat prostatic tumor (R3327-AT). Neither estrogen nor androgen receptors were detectable. Injection of viable cells (10(6)) subcutaneously forms 1 cm diameter tumor with 3 wk in 100% of the cases. The tumors grow equally well in male, female and castrated rats. Continuous culturing in the presence of high concentration of estradiol-17 beta of cells which survived the initial estrogen treatment resulted in an estrogen-adapted cell-line (R3327-AT-E). Estrogen receptors were detected within a few passages and subsequently progesterone receptors were also detected. Sc injection of R3327-AT-E viable cells into the flank resulted in small palpable nodules within 12 days in female and castrated rats and 20 days in males. The nodular size remained without any detectable change through day 40. Groups of animals bearing palpable tumor nodule for 20 days were injected 5 ug of estradiol-17 beta daily starting from day 21. Tumors reached 0.75 cm diameter within 12 days in the females and 17 days in the castrated animals. Androgens (testosterone and dihydrotestosterone) were cytotoxic to R3327-AT-E clonogenic cells irrespective of whether they were cultured in the presence or absence of estrogen. Interestingly, the androgen cytotoxic effect on R3327-AT-E clonogenic cells was observed at nanogram levels while the estrogen cytotoxic effect on R3327-AT cells was at ug levels. Anti-estrogens (tamoxifen and nafoxidine) were also cytotoxic to R3327-AT-E clonogenic cells. (no Refs)

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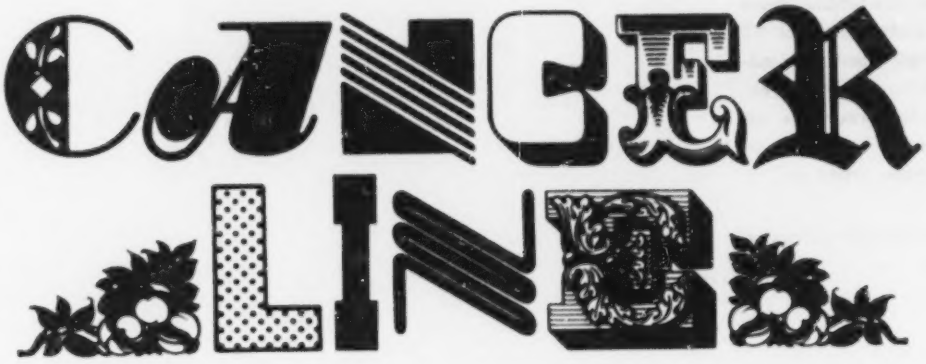

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Diagnosis, Treatment

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TUMORS OF THE KIDNEY (GENERAL)

1. SIGNIFICANCE OF INDIVIDUAL ANGIOGRAPHIC FEATURES IN THE EVALUATION OF HYPOVASCULAR RENAL LESIONS. PART I.

Hippeli R, Wolf KJ
Medizinisches Strahleninstitut, Universitat Tubingen, Rontgenweg 11, 7400 Tubingen, W. Germany
ROEFO; 135(2):125-132 1981

Fifty malignant and 50 benign nonneoplastic hypovascular renal lesions were classified on the basis of their angiographic morphology. Circumscribed masses manifested as avascular lesions (Group 1) lesions with peripheral vascularity (Group 2), and lesions with central vascularity (Group 3), as well as dif-

HE 20 .7 C3 no.82-02

fuse or multicentric space-occupying hypovascular lesions (Group 4) were distinguished. One of 20 hypernephromas belonged to Group 1, 13 to Group 2, 5 to Group 3, and 1 to Group 4. Group 1 was found in 3/12 carcinomas of the renal pelvis, Group 2 in 2, Group 3 in 5, and Group 4 in 4. Three of five adenocarcinomas belonged to Group 1, and one each to Groups 2 and 3. Three of five renal metastases belonged to Group 2, two to Group 3. Groups 1, 2, and 3 were represented in each of a total of three cystadenocarcinomas. Group 3 was found in 1/1 sarcoma and nephroblastoma, group 4 in 1/1 non-Hodgkin's lymphoma, and Group 1 in 1/1 case of malignant angiolipoma. Histologically similar processes were able to produce widely differing vascular patterns, and lesions of different etiology sometimes showed practically identical vascular patterns. Lacunar vascularization was found almost exclusively in malignant tumors, while reticular vascularization was found in over 50% of all malignant and benign cases. Corkscrew vessels were found practically exclusively in chronic inflammatory processes. Accumulation of contrast agent was found almost exclusively in malignant tumors. (no Refs) (In GER)

2. THE SURGICAL MANAGEMENT OF HEREDITARY MULTIFOCAL RENAL CARCINOMA.

Berg S, Jacobs SC, Cohen AJ, Li F, Marchetto D, Brown RS
Dept. Medicine, Harvard Medical Sch. at Beth Isreal Hosp., 1180 beacon St., Brookline, MA, 02146
J Urol; 126(3):313-315 1981

A family was described recently in which renal carcinoma developed in 10 members in three consecutive generations. The cancer tended to develop in patients at an early age, and to occur in both kidneys and at multiple sites more frequently than in nonfamilial renal cancer. The finding of a balanced reciprocal translocation between chromosomes 3 and 8 in affected family members suggests that an inherited genetic defect predisposes to the development of this cancer in middle-aged patients and offers a marker for screening individuals at risk. We herein discuss the surgical management of four family members, the proband and three relatives, who were discovered on screening to have bilateral, multifocal renal cancer. Certain compromises in the principles of radical tumor surgery have proved effective in these four patients. Partial nephrectomy has resulted in total extirpation of the bilateral tumors with survivals of 2 to 4 yr without need for chronic dialysis. The sequential order of surgical procedures is important since partial nephrectomy of the least affected side first allows a total nephrectomy on the more affected side to be done later, when necessary, without transient renal failure. (Author abstract) (10 Refs)

3. EVALUATION OF GELATIN SPONGE AND STAINLESS STEEL COIL IN THE ARTERIAL EMBOLIZATION FOR GRAWITZ TUMOR.

Nakatsuka H, Yamada R, Sato M, Tamaoka K, Itami M, Kobayashi N, Takashima S, Ono T, Minakuchi K, Yamaguchi S, Onoyama Y, Nakamura K, Furukawa T
Dept. Radiology, Osaka City Univ. Medical Sch., Osaka, Japan
Nippon Igaku Hoshasen Gakkai Zasshi; 41(5):409-416 1981

Transcatheter arterial embolization was performed in 26 patients with Grawitz tumor, using gelatin sponge (GS) alone in 20 cases and Gianturco's stainless steel coils (steel coil) in combination with GS in 6 cases. Usefulness of the therapy was discussed especially on the merits and demerits of each embolic material which had been employed in this series. Using steel coils in combination with GS, occlusion of the renal artery was complete, but the collaterals were highly developed in a short time. On the other hand, embolization using GS alone easily resulted in recanalization of the artery, however repeat of the procedure could bring about marked reduction of the tumor size with less development of collaterals. Therefore, the embolization using GS alone had better be employed as a palliative therapy for the tumor because it can be repeated and develops less collaterals. Steel coils should be employed in combination with GS as an adjuvant therapy for the tumor prior to surgery. (Author abstract) (18 Refs) (In JPN)

4. COMPLICATIONS OF TRANSCATHETERAL OCCLUSION OF ABDOMINAL ARTERIES.

Vogel H, Belz J, Bucheler E
Abteilung Rontgendiagnostik, Universitat Hamburg, Martinistr. 52, 2000 Hamburg 20, W. Germany
Roentgenblaetter; 34(9):342-350 1981

Complications of transcatheteral occlusion of abdominal arteries are reviewed. Embolization of the kidney was employed in 548 cases; the indications included renal tumors in 496 cases and pelvic tumors in 19. The embolization was palliative in 169/496 renal tumor patients, preoperative in 327. Flank pains were observed in 74.3-100% of all cases after peripheral occlusions, in 18.9% after central occlusion with Gianturco spiral, and in 0% after central occlusion with balloon catheter. Occlusions of the liver was performed in 40 cases: the indications included primary and secondary liver tumors in 20 cases and carcinoid syndrome in 1. The side-effects and complications included pain in six cases, increase in the hepatic enzyme level and continuing bleeding in three each, and hepatic coma and fever in two cases each. Occlusion was performed for gastric hemorrhage in 41 cases, including in 5 cases of hemorrhage due to gastric carcinoma. The side-effects and complications included continuing or recurrent hemorrhage in five cases, necrosis in four, reflux of the embolus from the right gastric artery into the proper hepatic artery in 1, embolization of the celiac trunk in 1, pain in two, and hypertension and fever in one each. (34 Refs) (In GER)

5. ACTIVE IMMUNOTHERAPY IN METASTASIZING HYPERNEPHROMA.

Klippel KF, Jacobi GH, Schulte-Wisserman H
Urolog. Univ. Klinik, Langenbeckstr. 1, 6500 Mainz, W. Germany
Aktuel Urol; 12(4):161-165 1981

Seven cases of primary metastatic disease of renal cell carcinoma, including four women and three men, were reported. Treatment was by immunotherapy. Patients received injections of allogenic (4 cases) or autologous (3 cases) tumor cells (5 x 10(6) cells, sc) together with either Keyhole Limpet Hemocyanin (KLH) or Candida antigen. Follow up was up to 36 mo. Three patients had died after 22 mo of treatment, including two treated with allogenic cells and one treated with autologous cells. Two patients treated with allogenic tumor cells showed stabilized disease. Two patients treated with autologous tumor cells showed no signs of disease after 15 mo of therapy. No general conclusions could be reached based on the small heterogeneous sample of patients. A review of related literature suggested that (1) removal of the primary tumor favors the success of immunotherapy; (2) the metastatic burden should be as small as possible; (3) immunization with autologous cells is more effective than with allogenic cells; (4) immunization with stimulators such as BCG or KLH has no effect; (5) in vivo mechanisms remain to be explained, particularly the depression of T-cells; (6) early post-operative immunization is more effective than later immunization. (14 Refs) (In GER)

6. DISTANT METASTASIS OF RENAL ADENOCARCINOMA.

Saitoh H
Dept. Transplantation, Tokai Univ., Sch. Medicine, Japan
Cancer; 48(6):1487-1491 1981

Renal adenocarcinoma in 1,451 autopsy cases was classified according to the number of organs involved in distant metastasis, and the mode of metastasis. In cases with single-organ metastasis, lung and lymph node involvement was low (32% and 12%, respectively), but increased as the number of metastatically involved organs increased. Frequency of metastases to the pancreas, heart, and intestine rapidly increased as the number of involved organs increased, while the incidence of metastasis to the brain remained unchanged, regardless of the number of organs involved. A significant correlation was observed between metastases to the lung and those to the pulmonary and tracheal lymph nodes, but not between those to the lung and those to the retroperitoneal lymph nodes. While the frequency of metastases to the contralateral kidney and brain was significantly higher in cases with recurrence after nephrectomy than in those who did not undergo nephrectomies, the frequency of metastases to other organs was similar in these two groups. The number of metastatically involved organs is useful in analyzing the mode of metastasis. (Author abstract) (25 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

7. RENAL BRUSH BIOPSY: SURVEY OF INDICATIONS, TECHNIQUES AND RESULTS.

Blute RD, Gittes RR, Gittes RF
Harvard Medical Sch. and Div. Urology, Affiliated Hosp. Center, Boston, MA
J Urol; 126(2):146-149 1981

Urine cytology is inaccurate in the diagnosis of low grade tumors of the ureter and pelvis. In 1973 the retrograde brush biopsy technique was introduced in an effort to improve diagnostic capabilities. We herein review our experience with retrograde brushing of upper urinary tract radiolucent filling defects in 21 patients during a 6-yr period. In addition, we have surveyed other urologists concerning their experience with this new technique. The data accrued from both sources, involving 68 procedures, were analyzed with respect to the results, technique and complications of this procedure. In lesions from which tissue was obtained we found an over-all diagnostic accuracy rate of 78%. The major and minor complication rates were 7 and 34%, respectively. Our results support the conclusion that this procedure is of value in the management of selected patients with problem radiolucent filling defects of the renal pelvis and ureter. (Author abstract) (9 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

8. DEVELOPMENT OF TRANSURETHRAL ULTRASONOGRAPHY AND CLINICAL APPLICATION TO THE BLADDER.

Nakamura S
Dept. Urology, Univ. Tokyo Faculty Medicine, Tokyo, Japan
Nippon Hinyokika Gakkai Zasshi; 72(5):511-529 1981

Use of transurethral ultrasonography (TU) in staging of bladder tumors was discussed, and its clinical application was evaluated by comparing preoperative diagnoses of stages of bladder cancer in 67 patients with postoperative pathological findings. Because bladder vesical structures such as mucosal edema, superficial and deep muscle layers, and bases of the tumors were discernable on the TU tomograms, T1-3 tumor staging categories for TU were similar to those used pathologically. Furthermore, eight characteristic tomographic patterns were described as secondary categories of tumor staging. TU scanning was possible in 64/67 cases; three of the cases of primary tumors in the neck of the bladder were not imaged with the TU. TU diagnostic findings on the tumor and the bladder wall characteristics were found to be consistent with postoperative pathological findings in 16/17 cases studied; the one misdiagnosis was due to lymphatic invasion of the muscle layer. Tumor staging and secondary tumor staging criteria were consistent with pathological staging in 54/58 cases; six cases were not evaluated due to inability to obtain pathological specimens. (23 Refs) (In JPN)

9. NEW INTRAVESICAL CONTRAST MEDIUM FOR CT: PRELIMINARY STUDIES WITH ARACHIS (PEANUT) OIL.

Hildell JG, Nyman UR, Norlindh ST, Hellsten SF, Stenberg PB
(c/o Norlindh) Dept. Diagnostic Radiology, Malmo General Hosp., S-214 01 Malmo, Sweden
AJR; 137(4):777-780 1981

Computed tomography is recognized as a valuable adjunct to clinical staging of bladder carcinomas, with a diagnostic accuracy of 70%-80%. Technique modifications in order to improve the diagnostic results include the use of various intravesical contrast agents. All hitherto described contrast agents suffer from drawbacks, either due to insufficient contrast resolution or to partial vol effect. Arachis (peanut) oil has been used in 69 patients and seems to meet many of the demands that can be made on a good intravesical contrast agent. Both bladder wall and tumor are well delineated, and diffuse and local thickening of the wall can be appreciated. The oil is nonhygroscopic and may therefore be used together with other contrast agents, if necessary. (Author abstract) (10 Refs)

10. LESIONS OF THE URINARY BLADDER EPITHELIUM IN 125 AUTOPSY CASES.

Ito N, Hirose M, Shirai T, Tsuda H, Nakanishi K, Fukushima S
First Dept. Pathology, Nagoya City Univ. Medical Sch., 1 Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya 467, Japan
Acta Pathol Jpn; 31(4):545-557 1981

One hundred and twenty five autopsy cases of macroscopically normal-appearing bladders of both sexes were examined histologically. Proliferative lesions such as Brunn's nests and cystitis glandularis, and metaplastic lesions such as columnar or cuboidal metaplasia and squamous metaplasia were commonly

found and were frequently associated with lymphocytic infiltration at all ages and in both sexes. Squamous metaplasia was more common in the female than the male. Sites of predilection for these lesions were the trigone and anterior wall except for columnar or cuboidal metaplasia and dysplasia which was distributed throughout the bladder. Since these lesions were commonly found at all ages in bladders not containing neoplasia, they cannot be regarded as premalignant lesions of the bladder. Dysplasia was detected in bladders even after the 8th decade. It is not known whether these lesions are the result of chronic irritation or neoplastic stimulus. (Author abstract) (24 Refs)

11. FLOW CYTOMETRY FOR FOLLOWUP EXAMINATIONS OF CONSERVATIVELY TREATED LOW STAGE BLADDER TUMORS.

Devonec M, Darzynkiewicz Z, Whitmore WF, Melamed MR
(c/o Melamed) Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Urol; 126(2):166-170 1981

A series of 26 conservatively treated patients with low stage bladder tumors was examined later by outpatient cystoscopy, conventional cytology and flow cytometry. Based on those findings the patients were separated into five groups. In the four patients in Group 1 all findings persistently were negative. The four patients in Group 2 had initially normal cystoscopy with progressively more abnormal flow cytometry and intermittently positive cytology; they subsequently suffered tumors. The 10 patients in Group 3 had positive cystoscopy and flow cytometry, and intermittently positive cytology. The six patients in Group 4 had negative cystoscopy with intermittently positive cytology and persistently positive flow cytometry. In all six cases flow cytometry was more sensitive than conventional cytology in detecting early and, sometimes, cystoscopically occult neoplasms. In the two patients in Group 5 cystoscopically visible papillomas and low grade papillary carcinomas were found with negative flow cytometry and negative or suspicious cytology. The papillary tumors in these two patients were believed to be composed principally of benign or atypical epithelium, with too few malignant cells to be detected by present flow cytometry techniques. Our preliminary results suggest that flow cytometry may be a valuable tool for followup of patients who have had conservatively treated low stage bladder tumors and are at risk for development of carcinoma. In addition, the technique may be used to monitor changes in the proportion of benign and malignant cells and, thus, can be of help in following the course of newly forming papillomas, papillary carcinomas or carcinoma in situ in papillomas or flat epithelium. (Author abstract) (13 Refs)

12. THE INFLUENCE OF SIMULTANEOUS RESECTION OF BLADDER TUMORS AND PROSTATE ON THE OCCURRENCE OF PROSTATIC URETHRAL TUMORS.

Laor E, Grabstald H, Whitmore WF
Einstein-Montefiore Dept. Urology, Bronx Municipal Hosp. Center, Room 1131, Pelham Parkway South and Eastchester Rd., Bronx, New York, NY, 10461
J Urol; 126(2):171-172 1981

The records of 137 patients who underwent simultaneous transurethral resection of bladder tumors and the prostate were compared to those of 150 patients who underwent transurethral resection of bladder tumors only. The data presented provide no evidence that simultaneous resection of bladder tumors with the prostate affects adversely the incidence of tumor occurrences in the prostatic urethra. (Author abstract) (12 Refs)

13. BLADDER HEMORRHAGE EMBOLIZATION. FORTY-THREE CASES.

Huguet JF, Clerissi J, Chamant M, Serment G
Service de Radiologie, CHU Timone, bd J-Moulin, 13385 Marseille Cedex 4, France
Ann Radiol (Paris); 24(5):456-460 1981

An attempt was made to control bladder hemorrhage by selective embolization in 43 patients. Their av age was 76 yr. The artery of the bladder comes from hypogastric arteries but some vessels come from hemorrhoidal and external pudendal group. The anastomosis between the feeding vessels needs a bilateral embolization. To facilitate superelective engagement of branch vessels an approach via the axillary artery or the controlateral femoral artery is favored. Many substances including spongel, spongel clip and isobutyl-2-cyanoacrylate have been employed, the better seems isobutyl but careful attention is necessary because of its fast polymerization; for this reason, we mixed it with lipiodol. Among 43 patients, embolic therapy proved successful in 37; 4 cases required embolization at two times. (Author abstract) (11 Refs) (In FRE)

14. UPDATE ON INTRACAVITARY RADIATION IN THE TREATMENT OF BLADDER TUMORS.

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J Urol; 126(3):323-325 1981

A 15-yr experience with intracavitary radiation for the treatment of selected bladder tumors is presented. The age range of these patients was 39 to 91 yr, with an av of 65 yr. There were 38 men and 17 women with multiple Stage A bladder tumors and carcinoma in situ. Some patients were poor risks for treatment by total extirpative surgery. A simplified technique using a 25 mg radium capsule as a central source is described for administration of 4,000 to 5,000 rad to the surface of the bladder. Most patients tolerate the presence of the radium catheter with little difficulty. No morbidity and no mortality were reported. In this series more than 60% of the patients benefited from the therapy, with no recurrence noted in some cases after up to 8-1/2 yr of followup. Intracavitary radiation is used in few clinics. Use of this modality does not preclude or complicate the subsequent use of other conservative measures or radical therapy if required. It is an effective procedure for treatment of multiple superficial and noninvasive tumors, including primary or recurrent carcinoma in situ, that are uncontrolled by other conservative measures. (Author abstract) (5 Refs)

15. PROPHYLACTIC BLADDER INSTILLATION THERAPY AFTER BLADDER-PRESERVATIVE SURGERY FOR BLADDER TUMORS.

Hayashida S
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Nishinippon Hinyokika; 43(2):210-215 1981

The prevention of recurrence of bladder cancer was attempted in 41 patients by intravesicular instillation of adriamycin (ADM) and in 48 patients by instillation of mitomycin C (MMC) after bladder-preservative surgery. Saline soln (20 ml) containing 40 mg of ADM was instilled into the bladder every day for 5 days or 20 ml of saline soln containing 10-20 mg of MMC was instilled every day for 20 days or once a wk for 10 wk. Another 182 patients were followed up without any prophylactic instillation. The recurrence rate in the groups treated with ADM or MMC was lower in the 3 yr after the operation

than that in the untreated group, especially for single, low-grade and low-stage bladder cancer. However there was no significant difference in the recurrence rate between the intravesicular instillation groups and the untreated group after more than 3 yr. Also no significant difference in the recurrence rate was observed between the ADM and MMC groups. Periodic long-term instillation of the antitumor agents seemed to be more effect ive than short-term instillation. On the basis of our observation, it is emphasized that further clinical trials with different antitumor agents are required and other prophylactic procedures should be investigated for prevention of recurrence of bladder cancer after surgery. (23 Refs) (In JPN)

16. CHEMOTHERAPY OF BLADDER CANCER: EFFECTS OF CONTINUOUS INFUSION OF MITOMYCIN C VIA THE INTERNAL ILIAC ARTERY AND SYSTEMIC ADMINISTRATION OF NEOCARZINOSTATIN.

Sakamoto S, Ogata J, Maeda H
Dept. Urology, Kumamoto Univ., Sch. Medicine, Honjo, Kumamoto 860, Japan
Nishinippon Hinyokika; 43(2):223-234 1981

Since 1966, 33 patients have been treated by continuous infusion of mitomycin C (MMC) via the internal iliac artery, with a marked anticancer effect. In five patients (15.2%), the primary tumors disappeared cystoscopically. In 12 patients, a reduction to less than half of the initial size of the tumor was observed (36.4%, marked effect). Reduction in tumor size was moderate in 16 patients (48.5%). In 1975, bladder cancer chemotherapy by systemic administration of neocarzinostatin (NCS) was started on the basis of experimental studies. Forty patients with newly diagnosed bladder cancer were treated by iv administration of NCS. In two patients (5.3%), complete disappearance of tumor was observed. In 19 patients (50%), the anticancer effect was marked. In nine patients (23.7%), it was moderate and in six patients (15%) no effect was obtained. Tumor growth was seen in two patients during the treatment. Pigmentation on the buttocks and subdermal induration were observed in half of the patients treated by continuous infusion of MMC. Other side effects were mild and temporary. However, in two patients, a serious side effect represented by severe ulcer formation on the buttocks was seen. In the group treated by NCS, leukopenia appeared in most cases and treatment was aborted. Other temporary side effects such as nausea and general fatigue were seen in some cases. The 5-yr survival rate for the group treated by continuous infusion of MMC was 66.7%. The 5-yr recurrence rate was 23.1%. In the group treated by NCS, the 5-yr survival rate was 90.5% and the recurrence rate was as follows: 6 mo 0%, 1 yr 5.4%, 2 yr 17.6% and 3 yr 32.1%. The results strongly indicate the potential applicability of this treatment for bladder cancer. (21 Refs) (In JPN)

17. A CASE-CONTROL STUDY OF BLADDER CANCER IN THE UNITED STATES RUBBER AND TYRE INDUSTRY.

Checkowway H, Smith AH, McMichael AJ, Jones FS, Monson RR, Tyroler HA
Occupational Health Studies Group, Sch. Public Health, Univ. North Carolina, Chapel Hill, NC, 27514
Br J Ind Med; 38(3):240-246 1981

A case-control study of bladder cancer was conducted in five United States rubber and tire companies to determine if there were high-risk jobs and work areas within the industry. The s tudy included 220 male cases of bladder cancer, of whom 107 were identified from hospital record reviews and 113 from death certificates. Each case was matched individually with two industry controls by sex, race, yr of birth, and company. One control was matched additionally by yr of hire and duration of employment. Comparisons of cases and controls not matched by yr of hire and age of hire showed no differences for those variables, which suggests that age and calendar period of first exposure to the industry were not risk determinants. When the work histories of both cases and controls were contrasted it was found that cases were more likely than controls to have worked in milling (odds ratio (OR) = 1.91) and calender operation (OR = 2.21) jobs. The relative risk estimates for milling and calender operation both exhibited linear trends of increase with duration of exposure. Milling and calender operation jobs entail potential exposures to volatilized reaction products from heated rubber stock. A better understanding of etiological associations with job type will require more detailed characterization of the work environment with regard to the sources and levels of aromatic amines and other suspected bladder carcinogens. (Author abstract) (25 Refs)

18. SOURCE OF DRINKING WATER AT HOME AND SITE-SPECIFIC CANCER INCIDENCE IN WASHINGTON COUNTY, MARYLAND.

Wilkins JR, Comstock GW
Dept. Preventive Medicine, Ohio State Univ., 410 West Tenth Ave., Columbus, OH, 43210
Am J Epidemiol; 114(2):178-190 1981

A nonconcurrent prospective study was conducted to investigate the postulated relationship between organic chemical byproducts of water chlorination and risk of human cancer. Vital records and nonofficial census data available for each of nearly 31,000 study subjects were used to compute selected sex- and site-specific cancer incidence rates in a well-defined county population. Age, socioeconomic status, smoking history, source of drinking water at home, and other individual characteristics of the study population were examined in relation to the cancer rates. The drinking water source variable consisted of three historical cohorts, each distinguished by a different degree of exposure to chloroform and other chlorination byproducts. Incidence rates for cancer of the bladder among men and for cancer of the liver among women were nearly twofold higher in the drinking water cohort that had been supplied chlorinated surface water at home when compared to the cohort with a history of consumption of unchlorinated ground water. The differences, however, were not statistically significant. A complementary mortality study also suggested an association of chlorinated water with cancer of the liver and urinary tract. The findings in Washington County indicate the need for further studies of individuals with different histories of exposure to chlorinated and unchlorinated drinking water. (Author abstract) (49 Refs)

19. PROGNOSTIC SIGNIFICANCE OF THE IMMUNE STATUS (DNCB TEST) IN PATIENTS WITH CARCINOMA OF THE URINARY BLADDER, CHECKED BY FOLLOW-UP OBSERVATIONS.

Flamm J, Burkert S
Urologische Abteilung, Wilhelminenspital, Montlaertstrasse 37, A-1171 Vienna, Austria
Wien Med Wochenschr; 131(13/14):339-344 1981

Correlations between immune status, assessed by the dinitrochlorobenzene (DNCB) skin test before treatment, and the follow-up results were studied in 48 patients (38 men, av age 74.2 yr, and 10 women, av age 72.8 yr) with histologically confirmed urinary bladder carcinoma. Sixteen patients had recurrent and 32 primary tumors. The patients were followed up

for up to 3 yr after tumor resection. The skin tests were positive in 22 cases: 7 of them died, 6 developed recurrences, and 9 were free from recurrence at the end of 3 yr. The skin tests were weakly positive in 11 cases: 3 of these patients died, 5 developed recurrences, and 3 were tumor-free after 3 yr. The skin tests were negative in 15 cases: 6 of these patients died, 5 developed recurrences, and 4 were free from recurrence. The comparison of the immune status with the WHO grading and Tumor-Node-Metastasis (TNM) staging showed no difference in survival between DNCB-positive and DNCB-negative patients in Stage I, but only DNCB-positive patients survived recurrence-free in more advanced stages. (10 Refs) (In GER)

20. URINARY GLYCOSAMINOGLYCAN EXCRETION AS A BIOCHEMICAL MARKER IN PATIENTS WITH BLADDER CARCINOMA.

Hennessey PT, Hurst RE, Hemstreet GP, Cutter G
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Cancer Res; 41(10):3868-3873 1981

Urinary glycosaminoglycan excretion was examined in 25 individuals with bladder cancer in comparison to glycosaminoglycan excretion by 8 normal individuals. Urinary glycosaminoglycan was isolated by gel filtration and quantified as macromolecular uronate concentration. Electrophoresis in calcium acetate and densitometry of Alcian blue-stained electrophoretograms were used to separate and quantify the relative amounts of individual glycosaminoglycans. Elevated excretion of macromolecular uronate was noted in 53% of the cancer cases. The highest levels were found among individuals with metastatic disease. Three electrophoretic bands were always detected in the control and cancer groups: chondroitin sulfate, heparin sulfate (both confirmed by chemical and enzymatic degradation), and a third band (Band 1) of unknown composition. A fourth band, corresponding to dermatan sulfate, was seen in some high-grade metastatic tumors. Band 1 excretion was elevated in a significant fraction of all patients. Seven of 12 metastastic cases but only 2 of 13 localized cases showed increased heparin sulfate excretion. Diagnostic limits were drawn f rom the observed distributions of normals, and with these limits 92% of the cancer cases, including 12 of 12 metastatic cases, could be identified. The results strongly suggest noninvasive urinary glycosaminoglycan analysis may well provide a new biochemical approach for detecting and monitoring the pathogenesis of bladder cancer. (Author abstract) (21 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

21. PERCUTANEOUS PELVIC LYMPH NODE ASPIRATION IN CARCINOMA OF THE PROSTATE.

Correa RJ, Kidd CR, Burnett L, Brannen GE, Gibbons RP, Cummings KB
Section Urology, Dept. Radiology, Virginia Mason Medical Center, Seattle, WA
J Urol; 126(2):190-191 1981

We report on 121 patients with adenocarcinoma of the prostate who underwent lymphangiography and, when indicated, subsequent fine needle aspiration biopsy of lymph nodes. The clinical staging correlation with this procedure reveals an assumed falsely negative rate of 5 to 15%. The falsely positive rate is 0. This procedure is essentially without morbidity and has allowed us to stage more confidently prostatic cancer and make appropriate therapeutic recommendations. (Author abstract) (8 Refs)

22. REIMPLANTATION OF THE URETER IN PROSTATIC CARCINOMA ASSOCIATED WITH BILATERAL URETERIC OBSTRUCTION.

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Dept. Urology, Sahlgrenska sjukhuset, S-413 45 Goteborg, Sweden
Br J Urol; 53(4):349-352 1981

Bilateral ureteric obstruction from prostatic carcinoma is not uncommon. A number of techniques for urinary diversion have been used in selected patients when uremia develops. Reimplantation of the ureter(s) as an alternative to urinary diversion has been carried out in 21 patients over a 7-yr period. In six of these patients bilateral reimplantation was done. In another six patients reimplantation of the ureter was not possible and cutaneous ureterostomy was carried out. The overall survival time was 10.6 mo. In 13 patients living more than 6 mo postoperatively, survival time was 1.8 yr. Most patients had severe uremia and advanced (clinical Stage III or IV) prostatic carcinoma. The immediate management of these patients is outlined and the importance of early diagnosis is stressed. It is concluded that, whenever possible, ureteric reimplantation should be considered for relieving ureteric obstruction in patients selected for active treatment. (Author abstract) (4 Refs)

23. SINGLE-DOSE HALF-BODY IRRADIATION FOR THE PALLIATION OF MULTIPLE BONE METASTASES FROM SOLID TUMORS: A PRELIMINARY REPORT.

Salazar OM, Rubin P, Hendrickson FR, Poulter C, Zagars G, Feldman MI, Asbell S, Doss L
Div. Radiation Oncology, Univ. Rochester Cancer Center, P.O. Box 647, 601 Elmwood Ave., Rochester, NY, 14642
Int J Radiat Oncol Biol Phys; 7(6):773-781 1981

Results of a Radiation Therapy Oncology Group study of escalating doses of half- body irradiation (HBI) for the relief of pain in patients with multiple bone metastases are reported. Of 91 evaluable patients (49 males and 42 females), 52 received lower HBI (LHBI), 12 received mid-body irradiation (MBI), and 27 received upper HBI (UHBI). Doses tested were 600, 700, and 800 rad for the UHBI group and 800, 900, and 1,000 rad for the LHBI and MBI groups. The most common primary tumor sites were breast (36%), prostate (35%), and lung (18%). After HBI, 19 patients experienced complete pain relief, 41 greater than 50% relief, and 10 some relief. Of the 70 responders, greater than 50% achieved relief within 48 hr of HBI and almost 80% achieved relief by the end of 1 wk. Relief of pain lasted for almost 70% of the remaining life of the 70 patients (mean survival, 21 wk); duration of relief was longest for breast cancer patients (20 wk), shortest for lung cancer patients (8 wk), and intermediate for prostate cancer patients (12 wk). Increasing the dose from 600 to 800 rad was beneficial, but 800-1,000 rad did not yield better symptomatic responses. HBI appears as effective as conventional fractionated therapy for multiple bone metastases. (21 Refs)

24. THE RESPONSE OF METASTATIC ADENOCARCINOMA OF THE PROSTATE TO EXOGENOUS TESTOSTERONE.

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J Urol; 126(3):372-375 1981

In a retrospective review the response of 67 patients with metastatic adenocarcinoma of the prostate to the administration of exogenous testosterone was analyzed. Among 52 patients in whom objective and/or subjective responses were evaluable 45 experienced unfavorable responses. There was prompt regression of most unfavorable responses with testosterone withdrawal. The duration of treatment required to evoke an unfavorable response was related to the clinical status of the patient. Twenty-five percent of patients with symptomatic metastases who had received no prior treatment, 36% in symptomatic remission after endocrine therapy and 94% with symptomatic relapse after endocrine therapy experienced unfavorable responses within 30 days of treatment. No patient had objective evidence of tumor regression during testosterone therapy but seven patients, six with remission and one untreated, experienced symptomatic benefit. We conclude that the response of patients with metastatic prostate cancer to exogenous testosterone is related to the mass and endocrine treatment status, and that exogenous testosterone can stimulate prostatic neoplasms that proliferate in the absence of normal endogenous testosterone levels. (Author abstract) (14 Refs)

25. EXPRESSION OF PROSTATIC ACID PHOSPHATASE IN HUMAN PROSTATE CANCER.

Loor R, Wang MC, Valenzuela L, Chu TM
Dept. Diagnostic Immunology Res. and Biochemistry, Roswell Park Memorial Inst., Buffalo, NY, 14263
Cancer Lett; 14(1):63-69 1981

The expression of prostatic acid phosphatase (PAP), by a specific immunochemical measurement, in prostate cancer (PC) was determined and compared to that of normal prostate (NP) or benign prostatic hyperplasia (BHP). The av PAP activity, based on ug DNA or per cell, in PC was 9.4 x 10(-3) units/ug DNA (mean), which was approx 25% of that in NP or BHP. NP and BHP exhibited similar ranges of PAP activity with mean values of 39.5 and 38.9 x 10(-3) units/ug DNA, respectively. The reduction of PAP activity in PC was accompanied by a decrease of PAP protein. When the active messenger (m)RNA in polysome form was examined by polysome binding to anti-PAP IgG, the synthetic apparatus of PAP at the polysomal level showed no qualitative differences among NP, BHP, and PC. However, the specific quantitative binding of anti-PAP IgG to polysomes of PC was 50% lower than that of NP or BHP. The loss of approx 75% of PAP activity and protein in PC suggests that the synthesis of PAP and PAP mRNA are suppressed through the repression of PAP gene expression. (14 Refs)

26. IMMUNOFLUORESCENCE FOR PROSTATIC ACID PHOSPHATASE: CLINICAL APPLICATIONS.

Pontes JE, Rose NR, Ercole C, Pierce JM
Dept. Urologic Oncology, Roswell Park Memorial Inst., Buffalo, NY, 14263
J Urol; 126(2):187-189 1981

An indirect immunofluorescence technique to detect cells producing prostatic acid phosphatase was used to evaluate 12 biopsies of soft tissue masses of possible metastatic prostatic carcinoma. In 10 patients varying degrees of immunofluorescence were observed, confirming the origin of the primary tumor. Specimens from 34 patients with prostatic carcinoma were obtained either by radical prostatectomy or transurethral resection of the prostate. A comparison of histological grade (Gleason), semiquantitative immunofluorescence for prostatic acid phosphatase and hormonal responsiveness was done. There was a suggestion of higher hormonal responsiveness in the group with a low Gleason score and a high percentage of positive immunofluorescence that presently cannot be evaluated completely since some patients still are under therapy. This method may be used in the future in conjunction with other techniques, such as androgen receptors, to define a population of patients most likely to respond to hormonal manipulation. (Author abstract) (10 Refs)

27. USE OF HUMAN PROSTATE-SPECIFIC ANTIGEN IN MONITORING PROSTATE CANCER.

Kuriyama M, Wang MC, Lee C, Papsidero LD, Killan CS, Inaji H, Slack NH, Nishiura T, Murphy GP, Chu TM
(c/o Chu) Dept. Diagnostic Immunology Res. and Biochemistry, Roswell Park Memorial Inst., Buffalo, NY, 14263
Cancer Res; 41(10):3874-3876 1981

The newly reported human prostate-specific antigen (PA) is a specific histiotypic product of human prostate. With the use of a sensitive enzyme immunoassay, the circulating PA in prostatic cancer patients has been evaluated clinically. In 96 patients with advanced stage of disease (D2) and receiving chemotherapies, the pretreatment serum PA levels were found to be of prognostic value with regard to the patient survival. Ten patients with metastatic prostate cancer were monitored for more than 32 wk by 183 serial PA values and were found generally to respond to the treatment. Additionally, in another group of 32 patients who underwent curative therapies for localized prostate cancer, 161 serum samples were evaluated during periods of 12 to 114 wk (av 56 wk). Of these patients, five developed metastases during follow-up, and all were shown to exhibit increasingly elevated PA values, either corresponding to or preceding the clinical diagnosis of disease recurrence. These results suggest that PA is a new marker with potential value to merit further clinical study. (Author abstract) (14 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

28. IMMERSION ULTRASOUND OF TESTICULAR PATHOLOGY.

Friedrich M, Claussen CD, Felix R
Dept. Radiology, Klinikum Steglitz, Free Univ. Berlin, Berlin, W. Germany
Radiology; 141(1):235-237 1981

A water-coupled free-immersion ultrasound scanner, the Octoson, was used to study 70 patients with scrotal masses. Scrotal swellings can be identified accurately as intrascrotal fluid collections or solid lesions, and an intra- or extra-testicular origin can be determined precisely. In most cases, testicular tumors can be distinguished from inflammatory conditions. Immersion testicular ultrasound can disclose the site, delineate the extent, and characterize the nature of intra- and extratesticular lesions. (Author abstract) (11 Refs)

29. ORCHIDECTOMY ALONE FOR STAGE I TESTICULAR TERATOMA.

Stout R, Hunter RD
Christie Hosp., Manchester, England
Br Med J; 283(6296):885 1981

Long-term results were compared in 21 patients treated only with radical orchidectomy and 100 patients treated with postoperative lymph node irradiation. Non-irradiated patients included 18 teratoma intermediate, 2 malignant teratoma undifferentiated, and 1 malignant teratoma trophoblastic. Irradiated patients included 33 malignant teratoma intermediate, 39 malignant teratoma undifferentiated, 2 malignant teratoma trophoblastic, 2 mixed teratoma and trophoblastic, and 24 mixed teratoma and seminoma. Seven of the non-irradiated patients died due to metastatic disease within 2 yr. Of these, one had para-aortic disease, six had widespread metastases, and five had definite lung metastases. Radiation therapy consisted of megavolt radiotherapy to the para-aortic and ipsilateral nodes, scrotum, and remaining testis, with a mid-plane dosage of 3,500 centigray in 20 daily fractions. Of patients so treated, 67 were alive and well after 5 yr. The survival rate was the same for both treatment groups (67%). Evidently prophylactic irradiation had no effect on the survival of patients. Careful staging and follow-up, with chemotherapy as necessary, is recommended. Avoidance of unnecessary radiation and cytotoxic treatment is urged. (5 Refs)

30. RADIATION THERAPY OF SEMINOMA OF THE TESTIS.

Qian TN, Hu YH, Chen CX, Qi YQ, Gu DZ, Gu XZ
Dept. Radiation Oncology, Cancer Inst. (Hosp.), Chinese Acad. Medical Sciences, Beijing, China
Int J Radiat Oncol Biol Phys; 7(6):717-720 1981

Survival and performance status (PS) data are reported for 73 men (age 21-60 yr) with testicular seminoma treated by orchiectomy followed by radiation (telecobalt therapy, 35 million electron volt beam, or 220 kilovolt x-ray). Routine irradiation included the retroperitoneal lymphatics up to the level of the diaphragm. Daily dose to the abdomen was 200 rad. The 5-yr survival rates were 100% for 54 Stage I patients and 92% for 13 Stage II patients; none of the 6 Stage III patients survived. A total of 49 Stage I and II patients survived 10 yr or more. The Karnofsky PS of 50 seminoma patients 5 yr after treatment was 90-100, ie, the patients were leading active, normal lives. Validity of treating metastatic seminomas by irradiation is illustrated by the case of a 49-yr-old patient with pulmonary metastases which did not respond to N-formylsarcolysin therapy but disappeared after telecobalt irradiation (total tissue dose 3,500 rad). (10 Refs)

31. INTRATESTICULAR GERM CELL TUMORS: OBSERVATIONS ON THE EFFECT OF CHEMOTHERAPY.

Fowler JE, Whitmore WF
Dept. Urology, Univ. Virginia Sch. Medicine, Box 422, Charlotesville, VA, 22908
J Urol; 126(3):412-414 1981

Two patients with disseminated germ cell tumors of testicular origin were treated with systemic chemotherapy for 5 and 10 mo prior to excision of the primary neoplasm. Residual intratesticular tumor was present in each case, despite extensive destruction of distant metastases. The possible basis for such differences in chemotherapeutic response is discussed. (Author abstract) (24 Refs)

32. THE ROLE OF MAINTENANCE THERAPY IN DISSEMINATED TESTICULAR CANCER.

Einhorn LH, Williams SD, Troner M, Birch R, Greco FA
Indiana Univ. Medical Center, 1100 W. Michigan St., Indianapolis, IN, 46223
N Engl J Med; 305(13):727-731 1981

A prospective study of 171 patients with disseminated testicular cancer examined the value of maintenance therapy with vinblastine (V) after chemotherapy-induced complete remission or chemotherapy cytoreduction followed by surgical resection of residual teratoma. Patients were treated with cisplatin + V + bleomycin (PVB) or PVB + doxorubicin (PVB+D). Complete remission and disease-free status after chemotherapy + surgery was achieved, respectively, by 56/87 and 10/87 in the PVB group, and 57/84 and 9/84 in the PVB+D group. Of the starting group of 171, 113 were randomized after remission-induction therapy to maintenance with V or no further therapy; relapses occurred in 5/58 and 4/55, respectively. After a minimum follow-up of 12 mo, no appreciable difference in disease-free status has been seen between the two groups. Of 18 patients who refused randomization to vinblastine maintenance, none has relapsed. The follow-up period is thought to have been sufficiently long to indicate that maintenance vinblastine is unnecessary for disseminated testicular cancer. (15 Refs)

33. RAYNAUD'S PHENOMENON: A COMMON TOXICITY AFTER COMBINATION CHEMOTHERAPY FOR TESTICULAR CANCER.

Vogelzang NJ, Bosl GJ, Johnson K, Kennedy BJ
Dept. Medicine, Univ. Minnesota Medical Sch., Masonic Cancer Center, Minneapolis, MN
Ann Intern Med; 95(3):288-292 1981

Raynaud's phenomenon occurred in 22 of 60 men (37%) treated with vinblastine and bleomycin with or without cisplatin for germ cell testicular cancer. An additional six patients (10%) had symptoms suggestive of Raynaud's phenomenon. Patients with and without Raynaud's phenomenon did not differ with respect to median age; tumor histology; total doses of vinblastine, bleomycin, and cisplatin; or the frequency of vinblastine-induced neuropathy and bleomycin-induced cutaneous toxicity. Digital ischemia occurred in 21% of patients treated with only vinblastine and bleomycin, and in 41% of patients treated also with cisplatin. Cigarette smoking was commoner in patients with than in those without Raynaud's phenomenon. Hand arteriograms showed diffuse arterial narrowing and abrupt vascular cutoffs. Except for one patient with a very low titer of cold agglutinins, no patient had detectable antinuclear antibody, rheumatoid factor, cryoglobulins, or cold agglutinins. Raynaud's phenomenon is a common delayed toxicity after chemotherapy with vinblastine, bleomycin, and cisplatin in patients with germ cell neoplasms. (Author abstract) (30 Refs)

34. IMPROVED HUMAN CHORIONIC GONADOTROPIN DETECTION WITH CARBOXYL-TERMINAL RADIOIMMUNOASSAY OF THE BETA SUBUNIT ON CONCENTRATED 24-HOUR URINE IN PATIENTS WITH TESTICULAR CANCER.

Javadpour N, Chen HC
Surgery Branch, NCI, NIH, Bethesda, MD, 21205
J Urol; 126(2):176-178 1981

The value of measuring serum levels of human chorionic gonadotropin in detecting and monitoring testicular cancer has

been demonstrated convincingly. In this study the human chorionic gonadotropin was extracted by the kaolin-acetone procedure from 24-hr urine specimens and the total vol of the extract was adjusted to 15 ml. With a highly specific immunoassay system (H93) that recognizes the unique carboxyl-terminal peptide of human chorionic gonadotropin beta subunit (residue numbers 123 to 145) as descri bed previously, the urinary human chorionic gonadotropin was measured serially in 32 specimens of 15 patients with initially human chorionic gonadotropin-producing testicular tumors. These 15 patients had simultaneous measurements of serum human chorionic gonadotropin using an antiserum against the beta subunit (Sb6) and urinary human chorionic gonadotropin concentrates using H93 radioimmunoassay. The initial serum hormone levels of these 15 patients were elevated and returned to normal after therapy. However, despite this occurrence the urinary hormone levels also were elevated. The initial five patients with elevated urinary but normal serum human chorionic gonadotropin levels had recurrence. The use of this highly specific radioimmunoassay in measuring urinary human chorionic gonadotropin coupled with effective chemotherapeutic agents has been valuable in selecting patients in whom further therapy is warranted despite normal serum human chorionic gonadotropin and clinically undetectable tumor. (Author abstract) (9 Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

35. CARCINOMA IN THE DEFUNCTIONALIZED URINARY TRACT.

Moloney PJ, Fenster HN, McLoughlin MC
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J Urol; 126(2):260-261 1981

Carcinoma developing in the lower urinary tract diverted from the urinary stream, although uncommon, does occur and must be sought carefully in the presence of intractable pyocystis. Our experience with this condition is presented with emphasis on early diagnosis and treatment. (Author abstract) (10 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

36. SOFT AGAR CLONOGENIC ASSAY FOR PRIMARY HUMAN RENAL CARCINOMA: IN VITRO CHEMOTHERAPEUTIC DRUG SENSITIVITY TESTING.

Lieber MM, Kovach JS
Dept. Urology, Mayo Clinic, 200 First St. South West, Rochester, MN
Invest Urol; 19(2):111-114 1981

Dispersed tumor cells from primary human renal adenocarcinomas showed typical clonogenic growth in soft agar in 7 of 31 instances. In vitro chemotherapy sensitivity testing was performed successfully for five of the seven clonogenic tumors. Extensive inherent resistance to the cytotoxic effects of many standard and experimental chemotherapeutic agents was observed. Occasionally, a single drug showed marked cytotoxicity. Similar results were obtained with soft agar clonogenic chemotherapeutic drug sensitivity assays performed on cells from human renal carcinoma xenografts. These in vitro results agree with clinical experience in the chemotherapy of advanced renal carcinoma. It remains to be determined if the sensitivity or resistance to chemotherapeutic drugs of human renal carcinomas noted in vitro reflects the characteristics of the tumors in vivo. Our results show that it is feasible to evaluate the soft agar assay as a method for selecting drugs for individual patients with renal carcinoma, a disease for which no chemotherapeutic treatment can be recommended at present. (Author abstract) (9 Refs)

37. CELL SURFACE ANTIGENS OF HUMAN RENAL CANCER DEFINED BY MOUSE MONOCLONAL ANTIBODIES: IDENTIFICATION OF TISSUE-SPECIFIC KIDNEY GLYCOPROTEINS.

Ueda R, Ogata S-I, Morrissey DM, Finstad CL, Szkudlarek J, Whitmore WF, Oettgen HF, Lloyd KO, Old LJ
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Proc Natl Acad Sci USA; 78(8):5122-5126 1981

Seventeen monoclonal antibodies derived from fusions with spleen cells of mice immunized with established culture lines of renal cancers identified 9 cell-surface antigenic systems. Six of the systems (gp160, S25, gp120r, gp120nr, gp115, and V1) represent antigens not previously described. the other three systems are related to HLA-A, -B, and -C heavy chain and A and B blood group antigens. The most restricted of the newly described antigens are gp160, S25, and gp120r. These determinants are found only on cells of renal origin, both normal and malignant, and represent differentiation antigens of human kidney. In addition to the difference in the mol wt of two of these antigens, gp160, S25, and gp120r can be distinguished on the basis of differential expression on a panel of cultured renal cancers and normal kidney epithelium and fetal kidney cells. Glycoproteins bearing gp120r share a determinant with renal gp120nr (as indicated by sequential precipitations with monoclonal antibodies that detect gp120r and gp120nr), but gp120nr is found on a broader range of cell types, including fibroblasts and cell lines derived from lung, bladder, and colon cancers. The two other new systems, gp115 and V1, have characteristics of broadly occurring differentiation antigens but can be distinguished from each other and from gp120nr by differences in mol wt, heat stability (V1 is a heat-stable determinant), and differential expression on cell types of diverse origin. (Author abstract) (9 Refs)

38. MERCURY-INDUCED NECROSIS OF MURINE RENAL CELL CARCINOMA.

Herr HW, Kleinert EL, Whitmore WF
Urology Section, Sloan-Kettering Inst., Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Surg Oncol; 18(1):95-99 1981

Administration of the nephrotoxic agent, bichloride of mercury (Hgl2), to BALB/c mice bearing subcapsular renal tumor transplants induced early preferential necrosis of the tumor cells compared with mercury-treated normal kidney tubular cells and untreated control tumors. The principle is established that a selective proximal tubular poison is also toxic for a tumor of the same cellular origin. (Author abstract) (3 Refs)

39. CYST FORMATION IN RAT KIDNEY INDUCED BY CIS-PLATINUM ADMINISTRATION.

Dobyan DC, Hill D, Lewis T, Bulger RE

Dept. Pathology and Lab. Medicine, Univ. Texas Health Science Center, Post Office Box 20708, Houston, TX, 77025

Lab Invest; 45(3):260-267 1981

The long-term pathologic effects of the antitumor drug cis-diamminedichloroplatinum II (CP) on the structure of the rat kidney were investigated. Light microscopy and transmission and scanning electron microscopy were used to characterize the morphologic changes 2 wk, 4 wk, and 6 mo after ip injection of CP to rats. At all time intervals examined, the S3 segment of the proximal tubule located in the outer stripe of the medulla showed the most consistent pattern of injury. Two wk after CP, the proximal tubules located in the outer stripe region as well as the medullary rays were widely dilated and lined by low-lying epithelial cells, many of which contained large atypical nuclei. Many tubules still showed evidence of necrosis, whereas other tubules appeared to be undergoing atrophic changes. After 4 wk, proximal tubular dilation continued resulting in the formation of numerous microcysts in the region of the outer stripe. These changes appeared to progress, and after 6 mo large cysts (mean diameter 2,152 +-1,241 um) were identified which involved the entire outer stripe, with many of these cysts extending to the subcapsular cortex. The kidneys at this time period showed a pattern of chronic renal injury in the outer stripe, and this damage was now also observed in the cortex. In several animals, small foci of abnormal foam cells surrounded by a basal lamina could be identified. We conclude that CP has a pronounced long-term effect and causes cyst formation in the rat kidney. (Author abstract) (22 Refs)

40. AN IN VITRO CLONAL ASSAY FOR BLADDER CANCER: STUDIES OF THE BIOLOGIC POTENTIAL OF THE UROTHELIUM AND DETERMINATION OF IN VITRO SENSITIVITY TO CYTOTOXIC AGENTS.

Stanisic TH, Buick RN, Trent JM, Fry SE, Salmon SE
Dept. Surgery/Urology, Univ. Arizona, Health Sciences Center, Tucson, AZ, 85724

J Surg Oncol; 18(1):67-72 1981

We have applied an in vitro colony-forming assay system to the study of primary urothelial explants obtained transurethrally by bladder barbotage and tumor biopsy from 91 patients. Urothelial cells obtained by bladder barbotage from patients with bladder cancer and from a 'control' group of individuals exhibit differential capacity to clone in agar. Of samples from bladder cancer patients, 88% formed colonies, whereas only 27% of these from a 'control' group did so. Of samples from a 'suspicious' patient group, 70% formed colonies. In vitro drug sensitivity studies of cells obtained by biopsy of solid tumors demonstrate a spectrum of drug sensitivity to cytotoxic agents. (Author abstract) (5 Refs)

41. BLADDER CANCER IN PET DOGS: A SENTINEL FOR ENVIRONMENTAL CANCER?

Hayes HM, Hoover R, Tarone RE
Environmental Epidemiology Branch, NCI, NIH, 3C07 Landow Bldg., Bethesda, MD, 20205

Am J Epidemiol; 114(2):229-233 1981

Proportional morbidity ratios (PMRs) were calculated for cancers, by site or type, in 8,760 pet dogs seen at 13 veterinary medical teaching hospitals in the United States and Canada. A significant positive correlation was seen between the PMRs for canine bladder cancer and the overall level of industrial activity in the host county of the hospital. An analysis of mortality from bladder cancer among white men and women in the same US counties showed similar correlations with industrial activity. Canine bladder cancer could be a sentinel condition whose investigation in certain locales might lead to early identification of carcinogenic hazards in the general environment. (Author abstract) (14 Refs)

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TUMORS OF THE KIDNEY (GENERAL)

1. COMPUTERIZED TOMOGRAPHY VERSUS ANGIOGRAPHY IN THE STAGING OF MALIGNANT RENAL NEOPLASM.

Probst P, Hoogewoud HM, Haertel M, Zingg E, Fuchs WA
Dept. Diagnostic Radiology, Univ. Hosp., Bern, Switzerland
Br J Radiol; 54(645):744-753 1981

A comparative diagnostic study was carried out on 40 patients with pathologically proven renal malignancies which were staged both by angiography and CT. CT is more accurate than angiography for the detection of both perirenal and pararenal extension of the primary tumor (T-staging), and angiogra phy is only slightly superior to CT in the evaluation of intravascular extension of the malignancy. The diagnostic performance of CT is clearly superior to angiography in detecting malignant lymphatic spread (L-staging) and distant metastases (M-staging). CT is, therefore, becoming the primary diagnostic approach for the staging of renal malignant tumors. (Author abstract) (24 Refs)

2. THE RELIABILITY OF THE 'HYPERNEPHROMA HALO'.

Wong WS, Cochran ST, Waisman J
(c/o Cochran) Dept. Radiological Sciences, Univ. California Los Angeles Sch. Medicine, Center Health Sciences, Los Angeles, CA, 90024
AJR; 137(5):933-937 1981

The excretory urograms and renal arteriograms of 68 patients with renal adenocarcinoma and 84 patients with renal masses other than renal adenocarcinoma were reviewed. The radiographs were examined for the presence or absence of the 'hypernephroma halo.' The sensitivity of this sign was observed to be only 6% and 35% on excretory urography and arteriography, respectively. The specificity was 92% and 77%. However, the overall accuracy for this sign was only 54% and 59%. The relation between the halo and its postulated structural correlate, the tumor capsule, was also examined. There was no significant association demonstrable. It was concluded that the hypernephroma halo is not a reliable sign for diagnosing renal adenocarcinoma and that it probably does not represent the tumor capsule. (Author abstract) (10 Refs)

3. DNA-FEULGEN-CYTOPHOTOMETRY OF HYPERNEPHROID RENAL CARCINOMA (MEETING ABSTRACT).

Hofstadter F, Rauschmeier H, Jakse G
Pathological Institute and Urological Clinic, University, Innsbruck Innsbruck, Austria
Eighth European Congress of Pathology, August 30-September 4, 1981, Helsinki, Finland. The Congress 92 pp., 1981.

Eighty thin-needle biopsies of 28 hypernephroid renal carcinomas have been examined by means of DNA-Feulgen-Cytophotometry (Reichert Univar with Mikrospektral-Photometer and HP-9835A computer). The histological grading was done according to Hermanek using three malignancy grades. Our results show, that there are clear correlations between cytochemical findings (DNA-tumor-stem line diploid deviation quotient, nuclear area) and histological grading: All the solid tumors of malignancy grade 1 show diploid tumor stemline, low diploid deviation quotient (DDQ 1.2), the tumors of grade 2 have non-diploid tumor stemline in at least 1 specimen in 4 out of 12 tumors and high proliferation rate (DDQ 1.2) in all the other specimens, tumors of grade 3 have non-diploid tumor stem line in 10 out of 12 tumors. These results show, that tumor grading of hypernephroid renal carcinoma can be standardized by means of DNA-Feulgen-Cytophotometry. The tumor cell populations of tumors grade 2 and 3 are composed very heterogeneously. By comparison with histopathology can be concluded, that papillary and adenomatoid tumor areas retain their diploid tumor stem line (showing high proliferation rate), but sarcomatous tumors and tumors with cytoplasm-rich cells have non-diploid stem lines. These facts could be the theoretical base of preoperative cytological tumor grading. (no Refs)

4. RENAL ADENOCARCINOMA PRESENTING AS A SOLITARY METASTASIS: CONTRIBUTION OF ELECTRON MICROSCOPY TO DIAGNOSIS.

Taxy JB
Dept. Pathology, Johns Hopkins Hosp., 600 North Wolfe St., Baltimore, MD, 21205
Cancer; 48(9):2056-2062 1981

Two patients, presenting with single mass lesions involving the posterior fossa and temporal bone, respectively, are reported. Clinically, both were thought to have primary tumors in those locations, hemangioblastoma in one and glomus jugulare paraganglioma in the other. Morphologic evaluation was compatible with adenocarcinoma of renal origin and large renal tumors were subsequently found in both patients. Electron microscopy was useful in eliminating the possibility of a primary tumor in those respective locations by demonstrating focal, but conspicuous dense arrays of microvilli at intercellular areas or along the free surfaces of plasma membranes. Microvilli do not, by themselves, signify any specific primary organ site. However, taken in the clinical and histologic contexts of a given case, ultrastructural observations can assist in establishing a definitive diagnosis. (Author abstract) (22 Refs)

5. SURGERY OF RENAL TUMORS.

Sigel A, Chlepas S, Schrott KM, Hermanek P
Urologische Klinik, Universitat Erlangen-Nurenberg, Maximiliansplatz, D-8520 Erlangen, W. Germany
Chirurg; 52(9):545-553 1981

The surgery of renal tumors is described and results obtained in 466 patients during the period 1969-1979 are reported. The spread of microscopic tumor emboli before devascularization is neither proven nor refuted. However, complete preliminary devascularization can be performed reliably. Lymph node dissection is of great significance, because negative findings make radiotherapy unnecessary. Thoracoabdominal or abdominothoracic approach is suitable in most cases, but lumbar approach is necessary in elderly obese patients. Indications of surgery in the 466 patients were carcinoma in 373 cases, adenoma in 1, nephroblastoma in 28, mesoblastic nephroma in 1, hemangioma in 1, hamartoblastoma in 3, leiomyosarcoma in 1, and sarcoma of the renal capsule in 4. The postoperative mortality was 9/229 after transabdominal operation, and 3/80 after lumbar operation. In the carcinoma patients operated on during the period 1969-1978, abdominal operation with systemic lymph node dissection was performed in 86 cases (27.2%), abdominal operation without lymph node dissection in 143, lumbar operation in 80, partial resection in 5, and bilateral partial resection in 2. The 5-yr survival rate of the carcinoma patients was 47.3% (53.2% after age correction): 72.9% in Ronson Stage I, 54.3% in II, 35.1% in III, and 14.8% in IV. The 5-yr actuarial survival rate was 56% (58% after abdominal operation and 48% after lumbar operation). The 10-yr actuarial survival rate

was 44% (47% after abdominal operation and 34% after lumbar operation) (11 Refs) (In GER)

6. SEGMENTAL RENAL ARTERY EMBOLIZATION IN SOLITARY RENAL CARCINOMA.

Soo CS, Chuang VP, Wallace S, Charnsangavej C, Bowers TA

Dept. Diagnostic Radiology, Univ. Texas System Cancer Center, M. D. Anderson Hosp. Tumor Inst., Houston, TX

Urology; 18(4):420-423 1981

Segmental renal artery embolization was performed as an alternative method to treat solitary renal carcinoma in two patients who were poor surgical candidates. In the first patient, a recurrent renal carcinoma in a solitary kidney was selectively embolized. Tumor regression was observed 18 mo later. Recanalization of the segmental artery and collateral from the capsular artery required a second embolization. In the second patient with a transitional cell carcinoma involving the lower half of the only functioning kidney, segmental renal artery embolization successfully controlled his persistent gross hematuria. (Author abstract) (12 Refs)

7. URINARY PROSTAGLANDINS IN RENAL CELL CARCINOMA (RCC)- A CASE REPORT (MEETING ABSTRACT).

Beckmann ML, Deture F, Ramwell PW

Georgetown University Medical Center, Washington, DC

International Conference on Prostaglandins and Cancer, August 30-September 2, 1981, Washington, DC. Lombardi Cancer Center 75 pp., 1981.

Elevated immunoreactive prostaglandins (iPG) were found in primary RCC and its distant metastases. Such studies have involved only patients with metastatic disease and did not conclusively correlate with plasma iPGs. This report describes the first patient studied for iPGs in urine and plasma with only local RCC. We studied a 65 yr old male with microscopic hematuria and a right renal mass noted during hypertension workup. There was no evidence of metastasis or local extension; he underwent right nephrectomy. Blood and urine were studied for renal function and for iPGs by conventional chemical analysis and radioimmunoassay at 2 days pre-op and 18 days post-op. Pre-op creatinine clearance was 90cc/min and fell to 70cc/min post-op, within normal post-nephrectomy function. Preop iPGE equals 787ng/24hr and iPGF2alpha equals 1142ng/24hr, elevated compared to the mean excretion of 390 +/-55ng/24hr iPGE and 499 +/-66ng/24hr iPGF2alpha for 9 healthy men. Post-op excretion of iPGE and iPGF2alpha fell to 329ng/24hr and 625ng/24hr respectively, not significantly different from the normals. However, plasma iPGF2alpha did not differ from normal either pre-op equals 85ng/dl or post-op equals 116ng/dl. These results are consistent with elevated u rinary iPGE/F2alpha and normal plasma iPGF2alpha in the presence of a locally confined, non-metastatic RCC. We conclude that such findings may be valuable diagnostic indicators of early RCC. Subsequent studies of a second similar patient confirms these initial findings. (no Refs)

TUMORS OF THE RENAL PELVIS AND URETER

8. THE ROLE OF BRACHYTHERAPY IN THE TREATMENT OF PRIMARY CARCINOMA OF THE VAGINA AND FEMALE URETHRA.

Delclos L, Wharton JT, Fletcher GH, Rutledge FN

Dept. Radiotherapy, Univ. Texas Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Houston, TX

Modern Interstitial and Intracavitary Radiation Management. George FW, ed. New York, Masson Publishing USA, Inc., Cancer Management, Vol. 6, 132 pp., 1981.

Treatment techniques for carcinoma in situ, squamous cell carcinoma of the vagina, adenocarcinoma of the vagina, and carcinoma of the female urethra are detailed. Previously published data for (1) primary carcinoma (99 squamous cell and 8 adenocarcinoma) of the vagina treated by irradiation (1948-1972), (2) clear cell adenocarcinoma of the vagina in young (1.5 to greater than 5 yr) females (1965-1976), and (3) carcinoma of the female urethra treated by irradiation (1948-1972) are presented. Epithelial tumors of the vagina and urethra can apparently be treated by external transvaginal, intracavitary, and interstitial irradiation with some success, regardless of age or stage and without the loss of vaginal function. (7 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

9. RECENT ADVANCES IN ULTRASONOGRAPHY OF THE BLADDER WITH AN INTRAVESICAL ROTATING SCANNER (MEETING ABSTRACT).

Fornage BD, Lardennois BM

No affiliation given

Excerpta Med Int Congr Ser; 547:99 1981

The importance of accurate diagnosis of bladder tumors needs not be stressed. Conventional external ultrasonography of the filled-up bladder is easy to perform but does not provide a sufficient resolution when assessing small tumors, and cannot visualize the deep extent of malignant tumors. A newly designed high-speed rotating 'transurethral' rigid scanner has been used whenever a tumor was suspected. 'Endoscopic' ultrasonography gives more detailed imaging of the margins and the contents of small tumors as well as a helpful, accurate localization of multiple tumors. Moreover, the extent of malignant tumors through the detrusor can now be demonstrated making the preoperative staging of bladder tumors possible. The risks of this procedure are those of a cystoscopy. The authors wish to obtain technical improvements enabling the operator to perform at the same time both cystoscopy and ultrasonography. Lastly, in women this transducer can be introduced into the vagina providing a fine view of the vesico-vaginal wall. (no Refs)

10. EVALUATION OF INTRAVESICAL ULTRASONIC TOMOGRAPHY AS AN INTEGRAL PART OF CYSTOSCO PY IN LESIONS OF THE BLADDER WALL (MEETING ABSTRACT).

Walther V, Schuller J, Staehler G, Bauer H
No affiliation given
Excerpta Med Int Congr Ser; 547:99 1981

The application of transurethral ultrasonic tomography to diagnose pathological irregularities of the bladder wall provides a better assessment than the transabdominal or transrectal scanning. After cystoscopy, the rotating probe is inserted into the bladder over a 24 F rectoscope sheath. The scanning procedure is based on the impulse-echo principles used in abdominal ultrasound scanning and the rotating movements used in radar. By changing the position of the transducer during investigation, dynamic sectional images can be obtained. Typical ultrasonic tomograms of 60 patients with different lesions of the bladder wall will be presented. The method has been proved well as an integral part of cystoscopy especially in the staging of bladder tumors. (no Refs)

11. BLADDER CANCER DIAGNOSIS BY IMAGE ANALYSIS OF CELLS IN VOIDED URINE USING A SMALL COMPUTER.

Sherman A, Koss LG, Adams S, Schreiber K, Moussouris HF, Freed SZ, Bartels PH, Wied GL
Montefiore Hosp. and Medical Center, 111 E. 210 St., Bronx, NY, 10467
Anal Quant Cytol; 3(3):239-249 1981

The digitized cell images of cells in the voided urine of 25 patients with various forms of bladder cancer were evaluated with the use of a small Digital GT-42 computer terminal with a dual disk drive. Cells studied were visually selected consecutive mononucleated urothelial cells with adequately preserved cytoplasmic and nuclear features. An av of 174 cells from patients and 446 control images from three normal volunteers were analyzed. Staining differences among samples were adjusted by computer using the av optical density of nuclei of benign urothelial cells as a point of reference. Cells were divided into a training set and an object set. With use of a two-level hierarchic classification, first level analysis eliminated small epithelial cells presumably of renal tubular origin. At the second level cells were put into four classes: NEG; slightly damaged atypical cells were classed as ATY I (mainly benign cells) and ATY II (mainly malignant cells); and POS. With use of the object sets only, all 25 patients showed a sum of 29% or higher (range, 29-88%) with an av of 62.5% ATYII + POS cells. Results were tested against theoretically constructed benign samples composed of NEG + ATY I cells. Under the least favorable circumstances, with a control sample of 100% ATY I cells, profiles of 23 patients would have been considered abnormal and 2 ambiguous. Analysis of the samples using binomial distributions and tests against theoretically negative samples containing 25% and 50% ATY I cells showed that a sufficiently high level of 'alarms' would be generated by the POS cells alone to establish a presumptive diagnosis of cancer in 23/25 patients. The clinical significance of this approach is discussed. (20 Refs)

12. PATHOLOGICAL CHANGES ASSOCIATED WITH TOPICAL CHEMOTHERAPY FOR SUPERFICIAL BLADDER CANCER.

Murphy WM, Soloway MS, Finebaum PJ
Dept. pathology, Baptist Memorial Hosp., Memphis, TN
J Urol; 126(4):461-464 1981

With use of previous observations in experimental animals as a basis for comparison the cytologic and histologic changes in human patients who underwent topical chemotherapy for superficial bladder cancer were documented. Despite the potential for inhibition of DNA replication these drugs apparently act in vivo as toxic substances, causing increased exfoliation with denudation of papillary and/or flat urothelium. Multinucleation was common but confined to superficial cells. Atypical cells, such as those observed after systemic chemotherapy with cyclophosphamide, rarely were present and could be distinguished readily from neoplastic elements. Although topical chemotherapy may suppress tumor growth and progression it apparently does not eradicate the neoplastic process. (Author abstract) (11 Refs)

13. GUIDANCE OF TRANSURETHRAL THERAPY OF BLADDER TUMORS BY AN ENDOVESICAL A-SCANNER.

Pensel J, Rothenberger K, Hofstetter A
Urologische Abteilung, Stadtisches Krankenhaus, Thalkirchner Strasse 48, D-8000 Munich 2, W. Germany
Urologe [A]; 20(Suppl):315-316 1981

The tissue geometry of the urinary bladder wall was examined with an endovesical A-scanner to determine the optimal parameters for the neodymium-YAG laser treatment of bladder tumors, using a transducer introduced transurethrally. The thickness of the filled bladder was found to be only 10-20% smaller than that of the just unfolded bladder. Determination of the bladder wall thickness in the tumor margin is important for the assessment of the in-depth penetration of the tumor. The ultrasonographic determination of the wall thickness and tumor size are essential for the selection of the parameters of the laser treatment. (7 Refs) (In GER)

14. ENDOSCOPIC DESTRUCTION OF BLADDER TUMORS WITH LASER.

Hofstetter A, Rothenberger K, Hofstetter A
Urologische Abteilung, Stadtisches Krankenhaus, Thalkirchner Strasse 48, D-8000 Munich 2, W. Germany
Urologe [A]; 20(Suppl):317-322 1981

Four hundred and ninety-eight bladder tumors (grades G0-G3, N0M0) were irradiated for destruction with neodymium-YAG laser during the period 1976-1979. Three hundred and two tumors, up to the size of a tip of the thumb, were subjected to laser treatment only. Larger tumors (196) were submitted to transurethral resection and laser irradiation 1 wk later. Conventional rigid laser endoscope was used in the treatment of 68 small tumors and 9 larger tumors. Twenty-one local recurrences were seen 2 mo after treatment (17 after destruction of small tumors, and 4 after destruction of large tumors). The recurrence was in the irradiated field in 7 cases, and in ther margin of the irradiated field in 14, ie, the recurrence can be attributed to insufficient primary irradiation in 7 cases. Laser endoscope with flexible Alharran insert was used in the treatment of 234 small and 187 larger bladder tumors during the period 1978-1979. There were only 25 local recurrences 2 mo after treatment: 13 after destruction of small tumors, and 12 after destruction of larger tumors. Sixteen recurrences were lo-

cated in the margin of the irradiated field, and 9 others were within the irradiated field. (13 Refs) (In GER)

15. RANDOMIZED TRIAL OF STANDARD THERAPY WITH OR WITHOUT POLY I:C IN PATIENTS WITH SUPERFICIAL BLADDER CANCER.

Kemeny N, Yagoda A, Wang Y, Field K, Wrobleski H, Whitmore W
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 48(10):2154-2157 1981

Thirty-two patients with superficial urinary blader tumors were stratified for four variables and randomized after complete transurethral resection and/or fulguration of tumor to receive standard therapy with or without iv Poly I:C. Cystoscopies were performed at 3-to 4-mo intervals for up to 48 mo. While there was no statistically significant difference in the tumor recurrence rates in the two groups during the 1st yr, a significant increase ($p = 0.003$) in survival at 4 yr was observed between the Poly I:C group and the control group. The difficulties in evaluating the efficacy of anti-neoplastic agents in the treatment of superficial bladder tumors are discussed. (Author abstract) (15 Refs)

16. UROEPITHELIAL CARCINOMA IN ASSOCIATION WITH CYCLOPHOSPHAMIDE INGESTION.

Fuchs EF, Kay R, Poole R, Barry JM, Pearse HD
Univ. Oregon Health Sci. Center, 3181 South West Sam Jackson Park Road, Portland, OR, 97201
J Urol; 126(4):544-545 1981

The association of daily oral cyclophosphamide with the development of transitional cell carcinoma or squamous cell carcinoma of the bladder has been documented. We report the first two cases of transitional cell carcinoma of the renal pelvis and an additional four cases of transitional cell carcinoma of the bladder following cyclophosphamide ingestion. Patients who have been taking daily oral cyclophosphamide for a prolonged period should have excretory urography, cystoscopy, and bladder mucosal biopsies performed as part of a cancer surveillance protocol. (Author abstract) (21 Refs)

17. DEPRESSION OF THE GENERATION OF CELL-MEDIATED CYTOTOXICITY BY MACROPHAGE-LIKE SUPPRESSOR CELLS IN BLADDER CARCINOMA PATIENTS.

Spina CA, Dorey F, Vescera C, Brosman S, Fahey JL
Immunobiology Group, Dept. Microbiology and Immunology, Univ. California Los Angeles Sch. Medicine, Los Angeles, CA, 90024
Cancer Res; 41(11,part1):4324-4330 1981

Depressed T-lymphocyte function as assessed by delayed-type hypersensitivity reactions and in vitro proliferative response to mitogens is a characteristic finding in many types of solid tumors, including bladder carcinoma. Peripheral blood WBC from 16 patients with transitional cell carcinoma of the bladder were compared with age-matched, control subjects. Both the unfractionated WBC containing 10 to 30% monocytes and the lymphocyte-enriched preparations, obtained by monocyte depletion with iron filling ingestion, were analyzed. Mixed WBC culture-induced cytotoxicity was depressed in the patient group; the amount of depression was directly correlated to the extent of the disease. In patients who underwent surgical removal of tumor, the mixed WBC culture-induced cytotoxicity appeared normal. This mixed WBC culture-generated cytotoxic response was a more sensitive indicator of tumor effect than was the induced proliferative response. Removal of phagocytic or adherent monocytes from the responding cell population caused a significant increase in the generated cytotoxicity, especially in those patients with invasive disease. These suppressive effects could be partially reconstituted by quantitative addition of the separated monocytes back to the responding lymphocyte culture. The depressed lymphocyte-mediated cytotoxicity present in these bladder cancer patients was due, in a major part, to a circulating macrophage-like cell with active suppressor function. (Author abstract) (39 Refs)

18. ADHERENT SUPPRESSOR CELLS IN THE BLOOD OF PATIENTS WITH BLADDER CANCER.

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Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Urol; 126(4):457-460 1981

Patients with advanced bladder cancer frequently show a low mixed lymphocyte reaction. Depressed mixed lymphocyte reactions may be augmented by removing adherent cells, which appear to be monocytes. Since cancer patients often have a larger proportion of monocytes than normal individuals They may have suppression simply because of an increase in the number of these cells. This possibility was tested by adding increasing numbers of autologous irradiated monocytes or lymphocytes to mixed lymphocyte reactions depleted of adherent cells. The results showed that (1) monocytes from normal individuals increased the mixed lymphocyte reaction at optimal concentrations 3 to 4-fold and suppressed it at higher than optimal concentrations, (2) lymphocytes at equivalent concentrations were not suppressive and (3) monocytes from the cancer patients whose mixed lymphocyte reaction was low did not increase the mixed lymphocyte reaction at any concentration and suppressed it at lower concentrations than monocytes from the normal controls. These results suggest that suppression of the mixed lymphocyte reaction by patient monocytes was not owing to an over-all increase in their number but appeared to reflect a fundamental change in their suppressive function. (Author abstract) (10 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

19. HISTOLOGIC GRADING AS PREDICTOR OF RESPONSE TO CHEMOTHERAPY IN PATIENTS WITH PROSTATIC ADENOCARCINOMA.

Kramer SA, Tatum AC, Walker A, Hinshaw W, Cox E, Paulson DF
Dept. Surgery, Duke Univ. Medical Center, Durham, NC
Urology; 18(4):377-379 1981

In patients with hormone-resistant, Stage D adenocarcinoma of the prostate, histologic grading using the Gleason classification allowed stratification of a subgroup of patients in whom response to chemotherapy could be predicted from the growth pattern of the original prostatic tumor. Sixteen of 30 patients (53 per cent) with Gleason sums of 6 or 7 demonstrated a response to chemotherapy. Conversely, only 4 of 21 patients (19 per cent) with elevated Gleason sums of 8, 9, or 10 achieved a response to chemotherapy (p less than 0.02). The ability to predict a treatment response in patients with hormone-resistant prostatic adenocarcinoma could be useful in future chemotherapeutic studies. (Author abstract) (11 Refs)

20. COMPARATIVE EFFECTS OF RADIATION ALONE OR ESTROGEN TREATMENTS ON THE FINE STRUCTURE OF PROSTATIC ACINAR AND STROMAL CELLS IN HUMAN PROSTATIC ADENOCARCINOMA (MEETING ABSTRACT).

Sinha AA, Smith AD, Lange PH, Blackard CE
Department of Genetics and Cell Biology and Urologic Surgery, University of Minnesota, Minneapolis, MN
Anat Rec; 199(3):237A 1981

Effects of radiation alone or estrogen treatments on the fine structure of prostatic acinar, invasive and stromal cells were compared to determine morphological characteristics of residual or surviving cells in the prostatic biopsies of prostate cancer patients during the first two yr of treatments. In the prostate glands, the acini contained light and dark basal cells, columnar/cuboidal cells and degenerating acinar cells. The stroma possessed variable amounts of invasive cells, fibroblasts, smooth muscle fibers, collagen fibers and blood vessels. Morphological analysis of the above cell types indicated that nearly all the prostatic cells were affected similarly by radiation treatment unlike the estrogen treated biopsies in which most of the columnar cells usually involuted into cuboidal cells. Relative to other cell types, the dark cells were more abundant indicating selection of unresponsive cells in estrogen treated patients. The invasive cells were fewer in radiation treated patients than in estrogen treated ones. Our result has shown that in localized tumors of stage III or lower, having moderate to well differentiated tumors, more acinar, invasive and stromal cells were destroyed during the first seven mo of radiation treatment than in estrogen treated patients. In radiation treated patients, most of the residual cells (some of which were neoplastic) were viable based on ultrastructural characteristics and/or on ability to proliferate in short-term tissue culture. In estrogen treated patients, more viable and neoplastic cells were readily observed. (no Refs)

21. RADICAL PERINEAL PROSTATECTOMY IN PATIENTS OVER AGE OF SEVENTY.

Kraus CT, Persky L
Univ. Hosp. Cleveland, Cleveland, OH
Urology; 18(4):368-369 1981

Radical perineal prostatectomy remains at the forefront of the surgeon's tools for treatment of Stage A2 and Stage B adenocarcinoma of the prostate. In the past, generally the criterion for selection of patients excluded those patients over age 70. In our series of radical perineal prostatectomies over the last 13 yr, we have operated on eight patients between the ages of 70 and 77, with minimal postoperative morbidity and no operative mortalities. Radical prostatectomy can be well tolerated in the older age group and should be considered in selected patients 70 yr and older. (Author abstract) (3 Refs)

22. ENDORADIOTHERAPY FOR CANCER OF THE PROSTATE.

Hilaris BS, Whitmore W, Batata M
Dept. Radiation Therapy, Memorial Sloan-Kettering Cancer Center, New York, NY
Modern Interstitial and Intracavitary Radiation Management. George FW, ed. New York, Masson Publishing USA, Inc., Cancer Management, Vol. 6, 132 pp., 1981.

Between 1970 and 1977 357 patients with localized prostatic carcinoma were treated by 125I implantation of the prostate and bilateral retropubic pelvic lymph node dissection. Patient age ranged between 36 and 82 yr, av 61 yr; av time from diagnosis to treatment was 5.3 mo. Results are based on an analysis of 300 cases with at least 1 yr follow-up. Eligibility for treatment depended upon good health and no clinical, radiological, or biochemical evidence of metastasis. Forms used for pretreatment examination, surgical pathology findings, staging, and follow-up are presented. Conservative transurethral resection was performed in patients with symptomatic or endoscopic evidence of prostatic obstruction. A total of 283/300 patients are alive 1-8 yr from date of implantation; 5 yr survival is 83/83 for stage T1, 115/122 for T2, and 83/95 for T3. Incidence of pelvic lymphadenopathy was 8% in T1, 46% in T2, and 55% in T3 tumors. Treatment failure was evident in 10%, the majority due to suboptimal dose distribution; 15% developed distant osseous metastases. Av time of appearance of first metastasis was 32 mo in T1, 16 mo in T2, and 20 mo in T3. Transient complications were experienced by 29 patients, and included dysuria, stress incontinence, leg or genital edema, rectal bleeding, persisting wound sinus, and hernia. No major urinary or bowel complications causing permanent functional disability were noted. Sexual impotency was reported in less than 10% of patient s who were allegedly potent at initiation of treatment. (9 Refs)

23. PROSTATIC-SPECIFIC ACID PHOSPHATASE (PAP) VERSUS ACID PHOSPHATASE (ACP) IN MONITORING PATIENTS WITH PROSTATE CANCER (PCA) (MEETING ABSTRACT).

Killian CS, Vargas FP, Slack NH, Murphy GP, Chu TM
Roswell Park Memorial Institute, Buffalo, NY, 14263
Clin Chem; 27(6):1064 1981

The present study, using the quantitative counterimmunoelectrophoresis, has evaluated the value of serial PAP, in contrast to AcP, in following the disease status of 2 groups of patients with PCa. Group A was comprised of 57 patients with localized disease (A2 to D1) who had received either a radical prostatectomy of definitive radiotherapy, and Group B, 10 newly diagnosed advanced D2 patients receiving chemotherapies. During the follow-up, 8 patients in Group A developed disease recurrence. An elevated PAP was found in all 8 patients and preceded disease recurrence by 2-7 mo in 5 patients. An elevated AcP was found in 3 of 8 patients at the time of disease recurrence, and 2 preceded the disease recurrence. The results obtained from Group B showed PAP was a better monitor for treatment response than AcP. Furthermore, PAP used in conjunction with the polyamines and isozymes of alkaline phosphatase, was observed to correspond with the other markers while monitoring the patients. These data suggested that, in addition to detection and confirmation of PCa as previously reported, PAP was more useful than AcP in (1) early indication of disease recurrence, (2) monitoring the efficacy of therapy, especially when AcP was slightly elevated or in the normal range and (3) confirming the sites of secondary metastasis in multi-marker system. (1 Ref)

24. IMMUNOCHEMICAL MEASUREMENT OF SERUM PROSTATIC ACID PHOSPHATASE (PAP). CLINICAL EVALUATION OF RADIOIMMUNOASSAY AND COUNTER IMMUNOELECTROPHORESIS.

Gupta MK, Rajaraman S, Gupta SK, Hewitt CB, Deodhar SD
Dept. Immunopathology, Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH, 44106
Am J Clin Pathol; 76(4):430-436 1981

Two radioimmunoassay procedures (RIA-1 and RIA-2) were evaluated for the quantitation of prostatic acid phosphatase in serum and compared with the enzymatic method and counter

immunoelectrophoresis method for their specificity and sensitivity. Sera from 168 patients were analyzed and these included: normals, 27; untreated prostatic cancer patients Stage A, 2; Stage C, 3; Stage D, 17; cancer of prostate treated with different modalities, 42; sarcoma of prostate, 1; prostatitis, 3; nonprostatic carcinoma, 17; and benign prostatic hyperplasia (BPH), 56. RIA-1 procedure appeared more sensitive (82% sensitivity) and specific (94.5% specificity), than the RIA-2 procedure (68% sensitivity and 92.8% specificity), but the differences were not statistically significant. The enzymatic method was found to be least s ensitive (63.6% sensitivity) but also the most specific (100% specificity). Only 69 of the specimens were analyzed by counter immunoelectrophoresis, which showed sensitivity of 87% and specificity of 51.4%. False positives were observed more often in patients with nonprostatic cancer and BPH. The variation in diagnostic specificity of immunologic assays suggest the need of characterization of each antibody specificity. (Author abstract) (16 Refs)

25. PROSTACYCLINS IN PROSTATIC CANCER: A POTENTIAL NON-SPECIFIC TUMOUR MARKER (MEETING ABSTRACT).

Khan O, Hensby CN, Williams G
No affiliation given
International Conference on Prostaglandins and Cancer, August 30-September 2, 1981, Washington, DC. Lombardi Cancer Center 75 pp., 1981.

Prostaglandins have been implicated in many disease states, including the development and spread of malignant tumors. Gas chromatography and mass spectrometry (GC-MC) of prostanoids and their metabolites in various human biological specimens (plasma, urine and benign and malignant tissues) have been analyzed by us. The stable derivative of prostacyclin, (PGI2) is 6-oxo-PGF1alpha was selectively studied. This prostanoid is known to be a potent hormone in inducing bone resorption. In age matched, healthy volunteers, the mean circulating level of 6-oxo-PGF1alpha was 98.5 +/-4.2 picograms/ml, while in patients with a benign prostatic enlargement it was 107.36 +/-8.25 picograms/ml. Whereas, untreated patients with prostatic cancer had a significant increase of 224 +/-3.62 picograms/ml and that in patients with skeletal metastases was even higher. The plasma concentration of 6-oxo-PGF1alpha varied with tumor differentiation and was higher in those patients with a poorly differentiated tumor. These estimations were prior to a rectal examination of the prostate gland. The plasma levels of patients with other tumors (breast, lung, colon, uterus and bladder) prior to treatment were also analyzed and found to be significantly elevated. Painful metastases were associated with raised prostaglandin levels and the biochemical effect of a prostaglandin synthetase inhibitor (Flubiprofen) will be described in over 60 patients. Standard hormonal therapy caused a significant fall in 6-oxo-PGF1alpha levels. Persistently elevated levels were associated with a worsening prognosis. Rising levels correlated with disease progression (by bone scan) and were a more accurate indicator than serum acid phosphatase. (no Refs)

26. CLINICAL AND IMMUNOLOGICAL INVESTIGATION OF PATIENTS WITH PROSTATE TUMORS.

Romics I, Feher J, Horvath J, Kisbenedek L, Balogh F
Urologische Klinik, Medizinische Semmelweiss-Universitat, Ulloi ut 78/b, H-1082 Budapest, Hungary
Z Urol Nephrol; 74(8):567-570 1981

Cellular and humoral immune reactivity were measured in 35 patients with histolo gically confirmed prostate carcinoma (PC). Av patient age was 67 yr. Measurements were made before transurethral prostate resection, cytostatic, and estrogen treatments. Tumors were classified as Stage A (0 cases), B (4 cases), C (18 cases), or D (13 cases). Stage B tumors were disregarded because of insufficient patients. Of 31 Stage C or D tumors, 2 were carcinoma scirrhosum, 1 was cribriform carcinoma, and 28 were adenocarcinoma. Twenty patients with adenoma of the prostate served as controls. Blastic lymphocyte transformation in the presence of phytohemagglutinin was significantly reduced in PC patients (24 +-12%) compared with controls (62 +-7%). No significant differences in levels of IgG or IgM were noted. Levels of acute phase reactant protein alpha-1-antitrypsin were higher (4.62 g/liter) in PC patients than in controls (2.91 g/liter). Transferrin was reduced in both PC and control patients compared with normal individuals. Results confirm that immune reactivity is disturbed in prostate carcinoma patients. The usefulness of immunotherapy in PC cases is suggested. (15 Refs) (In GER)

27. MEASUREMENT OF DIETHYLSTILBESTROL IN PLASMA FROM PATIENTS WITH CANCER OF THE PROSTATE.

Kemp HA, Read GF, Riad-Fahmy D, Pike AW, Gaskell SJ, Queen K, Harper ME, Griffiths K
(c/o Read) Tenovus Inst. Cancer Res., Welsh Natl. Sch. Medicine, Heath, Cardiff, CF4 4XX, Wales
Cancer Res; 41(11,part1):4693-4697 1981

A specific radioimmunoassay has been developed for diethylstilbestrol (DES), using an antiserum raised against DES monocarboxymethyl ether and a tritium-labeled radio-ligand. Prior to radioimmunoassay, a fraction enriched in DES is obtained from a dichloroethane extract of plasma using Sephadex LH-20. The specificity of the assay is good, and the sensitivity (130 pg/ml) is adequate for accurate determination of DES in plasma from prostatic cancer patients treated with the drug. The precision is satisfactory, with an interassay coefficient of variation of approx 10% at concentrations of approx 1 ng/ml, and the blank values are negligible. Excellent agreement ($r = 0.96$) is observed between data obtained by radioimmunoassay and those obtained by a procedure using gas chromatography-high-resolution mass spectrometry. DES concentrations in the plasma of six treated (1 mg DES tds) patients were in the range 0.15 to 6.0 ng/ml. Increases in plasma concentration were observed within 2 hr of administration, with secondary rises occurring 5 to 6 hr later. Plasma testosterone concentrations were low in four of the patients; in a single subject, relatively high levels of testosterone were further elevated following administration of luteinizing hormone-releasing hormone. (Author abstract) (19 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

28. ATYPICAL GERM CELLS IN THE SEMINIFEROUS TUBULES ADJACENT TO GERM CELL TUMORS OF THE TESTIS (MEETING ABSTRACT).

Jacobsen GK, Jacobsen M, Clausen PP, Henriksen OB
Department of Pathological Anatomy, Herlev Hospital, Copenhagen, Denmark
Eighth European Congress of Pathology, August 30-September 4, 1981, Helsinki, Finland. The Congress 92 pp., 1981.

Atypical germ cells or so-called carcinoma in situ are often found in the seminiferous tubules adjacent to germ cell tumors of the testis. In a series of 44 seminomas and 55 non-seminomas intratubular atypical cells were found in 39 and 54 cases, respectively. Cytomorphologically no differences were found in the atypical cells in the vicinity of the different tumor types. With immunoperoxidase technique positive intracytoplasmic staining reaction for ferritin was found in the intratubular atypical cells in 24 of 29 cases. Ferritin was neither found in normal germinal epithelium nor in non-malignant pathologic changes. In 35 of 39 germ cell tumors of various types ferritin was demonstrated in the tumor cells. The findings indicate a functional relationship between the atypical cells and the tumor cells and support the assumption that the atypical cells are precursors of various germ cell tumors of the testis. (no Refs)

29. TESTICULAR LYMPHOMAS: A CLINICOPATHOLOGIC STUDY OF 35 CASES.

Turner RR, Colby TV, MacKintosh FR
Dept. Pathology, Stanford Univ. Medical Center, Stanford, CA, 94305
Cancer; 48(9):2095-2102 1981

Thirty-five patients with malignant lymphoma of the testis were reviewed. The lymphomas were classified by the Rappaport criteria and the recently introduced Working Formulation of non-Hodgkin's Lymphomas. The great majority of cases were diffuse histiocytic lymphoma (Rappaport), and these could be further subclassified by the Working Formulation. Significant differences in survival were observed between histologic subgroups of the Working Formulation and this effect was independent of stage, which also had a significant effect on survival. Of 23 clinically evaluable patients who presented with testicular lymphoma, 8 of 17 patients with intermediate-grade lymphomas are alive and well, in contrast to none of six patients with high-grade lesions. The recognition of histologic subtype as a prognostic factor independent of clinical stage is important for postorchiectomy management of these patients. (Author abstract) (22 Refs)

30. DISSEMINATED SEMINOMA: RE-EVALUATION OF TREATMENT PROTOCOLS.

Mendenhall WL, Williams SD, Einhorn LH, Donohue JP
Dept. Urology, Hematology-Oncology, Indiana Univ. Medical Center, Indianapolis, IN
J Urol; 126(4):493-496 1981

Radiotherapy provides a high cure rate for patients with Stages I and II seminoma but the results for those with Stage III disease have been disappointing. We report on 19 patients with high stage seminoma who have been treated with platinum, vinblastine and bleomycin (14 patients) or platinum, vinblastine, bleomycin and doxorubicin hydrochloride (5 patients). Of the 19 patients 12 (63%) had complete remission of the disease and the remaining 7 had partial remission. To date, 11 patients (58%) remain free of disease. Of the six patients with no prior irradiation five achieved complete remission, while the one failure had massive hepatic metastases. The median follow-up was 19 mo (range 12 to 37 mo). These results parallel that achieved with the same chemotherapy regimen in patients with stage III nonseminomatous testicular cancer. (Author abstract) (25 Refs)

31. MEGAVOLTAGE IRRADIATION FOR PURE TESTICULAR SEMINOMA: RESULTS AND PATTERNS OF FAILURE.

Dosoretz DE, Shipley WU, Blitzer PH, Gilbert S, Prat J, Parkhurst E, Wang CC
(c/o Shipley) Dept. Radiation Medicine, Massachusetts General Hosp., Boston, MA, 02114
Cancer; 48(10):2184-2190 1981

The survival, patterns, and mechanisms of failure in 171 patients with pure testicular seminoma treated with megavoltage irradiation from 1950 to 1976 were analyzed. The survival of the entire group was 93% at 5 and 10 yr post-irradiation. Survival at 5 yr was significantly less for Stages III and IV (45%) when compared with Stages I and II (95%, p less than 0.001). Extranodal relapses were more common in early stages, and abdominal recurrences occurred in more advanced stages. Salvage treatment, management of HCG-producing seminomas, and second testicular seminomas are analyzed. The need for aggressive and appropriate radiation technique is emphasized. (Author abstract) (24 Refs)

32. PROBLEMS POSED BY SEQUENTIAL BILATERAL CANCERS OF THE TESTES.

Biedermann C, Leibundgut B, Torhorst J
Urologische Klinik, Kantonsspital, CH-4031 Basel, Switzerland
Helv Chir Acta; 48(3/4):377-381 1981

The diagnosis and treatment of six new cases of sequential bilateral testicular cancer is described. In all six patients (23-45 yr old) the second tumor developed in the remaining testis following complete remission of the first tumor. The second tumor (3 malignant teratomas, 3 seminomas) developed 1.0-18 yr after treatment of the first tumor (4 teratomas, 2 seminomas). In three patients, the second tumor was of a different histological type than the first. Of the six patients, five underwent radiotherapy (1 with lymphadenectomy) and one chemotherapy (with lymphadenectomy) for the first tumor. All of the five patients treated for the second testicular tumor, underwent lymphadenectomy and chemotherapy, and one was treated with radiotherapy. The importance of long term follow-up for patients treated for germ cell testicular neoplasms is discussed. (13 Refs) (In FRE)

33. INTERPRETATION OF LDH ISOENZYME PATTERNS IN TESTICULAR CANCER (MEETING ABSTRACT).

Liu F, Fritsche HA, Trujillo JM
Department of Laboratory Medicine, University of Texas System Cancer Center, Houston, TX
Clin Chem; 27(6):1066 1981

We have observed abnormal levels of serum lactic dehydrogenase-1 (LDH-1) activity in 81% (34/42) of patients with advanced stage III germ cell malignancy of the testis. Our criteria for evaluating the electrophoretic isoenzyme pattern were as follows: Criterion 1, LDH-1 value in absolute units greater than 52.0 IU/L with the LDH-1/Total ratio greater than 37.2%; Criterion 2, the absolute value of LDH-1 less than 52.0 IU/L but the LDH-1/Total LDH ratio greater than 37.2%;

Criterion 3, the absolute value of LDH-1 greater than 52 IU/L and its relative ratio lower than 37.2% activity but the LDH-5/LDH-1 ratio less than 0.5, or when the LDH-5/LDH-1 ratio is greater than 0.5 but the LDH-1 greater than LDH-2. Interpretation of LDH-1 activity only on the basis of its relative ratio regardless of total LDH value (criterion 1 and 2) identified a total of 28 patients (67%). A criterion 3 elevation was demonstrated in 6 (14%) additional patients. LDH-1 elevation occurred in all histopathologic cell types. The frequency of LDH-1 elevation correlated with the extent of the disease (stage III-B-1 and 2, 50%; stage III-8-3, 85%; stage III-B-4, 91%; stage III-B-5, 93%). All patients with persistent elevations or re-elevations of LDH-1 have shown progressive or recurrent disease and patients with no clinical evidence of disease have demonstrated normal LDH-1 values. In those patients with elevated LDH-1 activity, serial measurements of serum LDH-isoenzyme reflect the response of the patient to therapy. (no Refs)

TUMORS OF THE PENIS AND SCROTUM

34. LOEWENSTEIN-BUSCHKE TUMOUR OF PENIS - A CARCINOMIMIC.

Ananthakrishnan N, Ravindran R, Veliath AJ, Parkash S
Jawaharlal Inst. Postgraduate Medical Education and Res., Pondicherry 605006, India
Br J Urol; 53(5):460-465 1981

Twenty-four patients with invasive penile condylomatosis (Loewenstein-Buschke tumor) seen over a 10-yr period are presented. The clinical behavior of the lesions, their pathological nature and response to treatment are reviewed. Their true significance and differentiation from condyloma acuminatum and squamous cell carcinoma are discussed. It appears that the lesions are not as rare as hitherto believed but are often incorrectly diagnosed as carcinoma. (Author abstract) (15 Refs)

35. ULTRASTRUCTURE OF BUSCHKE-LOEWENSTEIN TUMOR.

Hull MT, Eble JN, Priest JB, Mulcahy JJ
Dept. Pathology, N440 Univ. Hosp., 110 West Michigan St., Indianapolis, IN, 46223
J Urol; 126(4):485-489 1981

A 44-yr-old man suffered a Buschke-Loewenstein tumor that was treated by distal penectomy. Ultrastructurally, this tumor showed widened intercellular spaces, prominent microvilli, decreased numbers of and incompletely developed desmosomes, decreased tonofilaments, cytoplasmic dense bodies, enlarged nucleoli and annual nuclear bodies. These ultrastructural features are quite similar to those of squamous carcinoma but are dissimilar to those of condyloma acuminatum and, to a lesser extent, verrucous carcinoma. These data suggest that electron microscopy may be useful in differentiating the neoplastic Buschke-Loewenstein tumor from large condyloma acuminatum. (Author abstract) (26 Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

36. IMPROVED TECHNIQUE FOR RETROGRADE BRUSHING IN DIAGNOSIS OF UROTHELIAL TUMORS OF UPPER URINARY TRACT.

Karlsen S
Section Urology, Univ. Oslo, Akershus Central Hosp., 1474 Nordbyhagen, Norway
Urology; 18(4):345-348 1981

Our experience with retrograde brushing of radiolucent filling defects in the upper urinary tract in four patients is presented. The Meditech steerable catheter represents a significant improvement in technique. Brush cytology adds considerably to preoperative diagnosis and is indicated to provide the information necessary to decide between conservative and radical surgery. (Author abstract) (16 Refs)

37. URINARY CYTOLOGY AS A TEST IN MASS SCREENING.

Nemoto R, Kato T, Shibata K, Kano M
Dept. Urology, Akita Univ. Sch. Medicine, Akita 010, Japan
Tohoku J Exp Med; 135(1):115-116 1981

Use of a screening test for detection of urinary tract cancer in the early stages is described. Over a 1-yr period 16,062 urine sediment samples were collected at random from in- and outpatients. Sediments were examined for leukocyte, erythrocyte, and epithelial cell counts. Samples were stained with toluidine blue for detection of abnormal cells. Approx 80 samples/day were screened. Abnormal samples were checked by Papanicolaou staining. Six samples were determined to be abnormal. Four of these underwent complete urological investigation. One of these was a false positive. Three cases of transitional cell carcinoma of the bladder were detected. A detection rate of approx 1 cancer/5,000 randomly-screened patients indicates the usefulness of the method. Efficiency could be improved by selective screening of high risk groups. (3 Refs)

38. EXTERNAL APPLICATION OF NEODYMIUM-YAG LASER BEAM IN UROLOGY.

Staehler G
Urologische Klinik und Poliklinik, Universitat Munchen, Marchioninistrasse 15, D-8000 Munich 70, W. Germany
Urologe [A]; 20(Suppl):323-327 1981

Neodymium-YAG laser irradiation was used in the treatment of benign and malignant tumors of the external genitals during the period June, 1979 to February, 1981. The irradiation was preceded by biopsy. Exophytic tumors larger than lentil size as well as carcinomas of the urethra were removed by means of a diathermy loop before laser irradiation. Twenty-five patients were treated in 34 sessions. Cond yloma acuminatum was diagnosed in 16 cases, penis carcinoma in 4, Bowen's disease in 2, urethral carcinoma in 2 women, and hemangioma in 1. Two patients with condyloma acuminatum, and one with penis carcinoma developed recurrences. The two women with urethral carcinoma were tumor-free for 7 and 12 mo, respectively, at the time of reporting. In another series of 39 patients with condyloma of the penis and urethra, 2 patients developed recurrences after laser irradiation. (10 Refs) (In GER)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

39. GROWTH OF HUMAN BLADDER-TUMOUR CELL LINES IN AN IMMUNE-DEPRIVED MOUSE HOST (MEETING ABSTRACT).

Joy KM, Berry RJ, Hicks RM
Department of Cell Pathology and Oncology, Middlesex Hospital Medical School, London W1P 7LD, England
Br J Cancer; 43(5):724 1981

Four established tumor cell lines derived from different transitional-cell carcinomas of the human urinary bladder were xenografted: EJ, RT112, T24, and RT4. The tumor cells were injected sc at the rate of 10(6) cells per mouse into both immune-deprived mice and non-deprived controls. EJ cells rapidly produced tumors in 10/11 mice, while 8/10 mice that received RT112 cells developed tumors. The T24 cell line produced tumors in 10/20 mice, and on transplantation of solid tumor tissue from one of these animals 11/12 mice developed tumors. Tumors arose in 4/6 mice injected with RT24 cells, one of which was later transplanted into 10 mice with an 80% incidence of tumor formation. With all the cell lines tumors were generally detectable within 10 days of xenografting, and viable tumors were maintained in immune-deprived mice for over 120 days. No tumor was produced in any of the immunologically competent control mice. The in vivo growth of xenografted cells was assessed by histopathological and electron microscopical techniques. RT112, RT24 and RT4 tumors deplayed a pseudopapillary growth pattern, while EJ tumors were poorly differentiated and had a solid pattern of growth. Tumors from all 4 cell lines showed similar growth. They exhibited progression from an encapsulated stage through capsule infiltration to malignant invasion. This immune-deprived mouse model thus appears to be a satisfactory alternative to the nude mouse as a host for human bladder tumor-cell lines. (no Refs)

40. HISTOLOGICAL PRINCIPLES OF ENDOVESICAL NEODYMIUM-YAG LASER IRRADIATION.

Keiditsch E
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Urologe [A]; 20(Suppl):300-304 1981

Histological changes produced by argon laser, neodymium (ND)-YAG laser, and electrocoagulation were studied in rabbit and rat urinary bladder. Argon laser caused necrosis near the surface of the urinary bladder wall, and even ablation of the tissue to the point of perforation, when the energy den sity was increased. Electrocoagulation resulted in irregularly demarcated necroses of varying depth due to the uncontrolled flow of the high-frequency currents along the paths of least resistance. By contrast, the ND-YAG laser effected a band-shaped necrosis penetrating all layers of the bladder wall without causing primarily tissue ablation. The findings indicate that the ND-YAG laser is best suited for transmural coagulation of defined areas within the bladder wall due to the even distribution of its thermal energy that is independent of the affected tissue structure, as well as to its deep coagulating quality, which in turn is due to the minimum tissue absorption of the laser beam. The ND-YAG laser permits reproducible, sharply demarcated necroses with ensuing complete destruction of all wall layers. However, the wall structure within the necrotic area remains intact, so that the danger of perforation is kept at a minimum. (4 Refs) (In GER)

41. MAINTENANCE BY SACCHARIN OF MEMBRANE ALTERATIONS OF RAT BLADDER CELLS INDUCED BY SUBCARCINOGENIC TREATMENT WITH BLADDER CARCINOGENS.

Kakizoe T, Komatsu H, Niijima T, Kawachi T, Sugimura T
Urology Div., Natl. Cancer Center Hosp., Tsukiji 5-1-1, Chuo-ku, Tokyo 104, Japan
Cancer Res; 41(11,part1):4702-4705 1981

Saccharin is known to have a tumor-promoting effect on bladder cancer in rats, but its mechanism of action is unknown. We demonstrated that the increased agglutinability of isolated epithelial cells of the bladder in the presence of concanavalin A caused by a subcarcinogenic dose of bladder carcinogens disappeared shortly after the end of their administration. However, saccharin maintained the increased agglutinability when given continuously after administration of carcinogen. Moreover, the agglutinability of bladder cells previously exposed to a subcarcinogenic dose of bladder carcinogens increased again when saccharin was given after the agglutinability had disappeared completely. (Author abstract) (23 Refs)

42. GROWTH CONTROL OF PROSTATIC CARCINOMA CELLS IN SERUM-FREE MEDIA: INTERRELATIONSHIP OF HORMONE RESPONSE, CELL DENSITY, AND NUTRIENT MEDIA.

Kaighn ME, Kirk D, Szalay M, Lechner JF
Pasadena Foundation Medical Res., 99 North El Molino Ave., Pasadena, CA, 91101
Proc Natl Acad Sci USA; 78(9,part2):5673-5676 1981

Two established prostatic carcinoma cell lines have been grown in long-term culture in a defined medium (PFMR-4) free of serum, hormones, or growth factors. Growth of both lines in serum-free medium was population dependent. This cell-density requirement could be replaced by mitomycin C-inactivated feeder cells, homologous conditioned medium, or fetal bovine serum, but not by hormones or growth factors. The cells responded to these factors only at high density. The nature of this hormonal res ponse was dependent on the kind of basal nutrient medium used. Growth in PFMR-4 with added insulin was more rapid than that in DME/F12 medium with any combination of hormones or growth factors and was substantially greater than growth in DME/F12 medium with insulin alone. The results demonstrate that whereas these two prostatic carcinoma lines (PC-3 and DU 145) do not require hormones for survival or growth, they do respond to certain hormones under appropriate conditions. These conditions include both the type of basal nutrient medium used and the population density. (Author abstract) (20 Refs)

43. DESIGN OF AN IN VITRO ASSAY FOR CHOICE OF CHEMOTHERAPY IN PROSTATE CANCER (MEETING ABSTRACT).

Clarke SM, Merchant DJ
Department of Microbiology and Immunology, Eastern Virginia Medical School, P.O. Box 1980, Norfolk, VA, 23501
In Vitro; 17(3):260 1981

This work was undertaken to devise the technology necessary for an assay that could be used in a hospital laboratory to evaluate the affects of different chemotherapeutic agents on an individual patient's cells. The necessity of this type of approach to prostatic cancer therapy can be seen in the wide variety of responses of patients with the same grade of cancer to identical treatment plans. Important criteria for this type of assay in-

clude: (a) the ability to grow prostatic epithelium in vitro from transurethral resection or biopsy specimens; (b) the use of chemotherapeutic agents in concentrations equivalent to those used in therapy; and (c) the use of a representative sample of the cell population for testing. The primary outgrowth of prostatic epithelial cells has been developed. In preliminary experiments utilizing this system, Cisplatin, in concentrations equivalent to those used in vivo, has shown easily recognizable degenerative changes in the cultured cells. These changes are dose responsive. Additional parameters being investigated include changes in RNA, DNA, and mitotic activity. Definitive results from this assay can be obtained within 6-8 days following the original explantation of the tissue. (no Refs)

44. INHIBITION OF PROSTATE TUMOR GROWTH IN TWO RAT MODELS BY CHRONIC ADMINISTRATION OF D-TRP6 ANALOGUE OF LUTEINIZING HORMONE-RELEASING HORMONE.

Redding TW, Schally AV
Endocrine and Polypeptide Lab., Veterans Admin. Medical Center, New Orleans, LA, 70146
Proc Natl Acad Sci USA; 78(10):6509-6512 1981

We have investigated the effect of the D-Trp6 analogue of luteinizing hormone-releasing hormone (LH-RH), a superactive analogue of LH-RH, on the growth of two different models of prostate tumors in rats. Chronic administration of D-Trp(6)-LH-RH in a dose of 25 ug/day for 14-21 days significantly inhibited the growth of the chemically induced squamous cell carcinoma 11095 in Fisher 344 male rats. The wt of the ventral prostate and testes were also significantly reduced by treatment with this analogue. After 21 days of treatment, the animals no longer showed increases in serum luteinizing hormone and follicle-stimulating hormone levels in response to D-Trp(6)-LH-RH. Treatment of male Copenhagen F-1 rats bearing the Dunning 3327 prostate adenocarcinoma with 25 ug of D-Trp(6)-LH-RH per day for 42 days decreased the wt of both the ventral prostate and testes but had no effect on the wt of the anterior pituitary gland. The percentage increase in tumor vol was decreased to one-third and the actual tumor wt was decreased by 58% compared to untreated controls. The tumor doubling time was more than 4x longer in rats receiving D-Trp(6)-LH-RH than in controls. Serum levels of luteinizing hormone and follicle-stimulating hormone were significantly decreased in rats receiving this analogue. In both Fisher 344 and Copenhagen F-1 rats, serum prolactin and testosterone levels were significantly decreased after treatment with D-Trp(6)-LH-RH, whereas progesterone levels were increased. (Author abstract) (34 Refs)

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TUMORS OF THE KIDNEY (GENERAL)

1. CT DEMONSTRATION OF FAT TISSUE IN MALIGNANT RENAL NEOPLASMS: ATYPICAL WILMS' TUMORS.

Parvey LS, Warner RM, Callihan TR, Magill HL

Dept. Diagnostic Imaging, St. Jude Children's Res. Hosp., 332 North Lauderdale, Post Office Box 318, Memphis, TN, 38101

J Comput Assist Tomogr; 5(6):851-854 1981

It has been implied that the recognition of fat in a renal tumor suggests that the lesion is benign. Several authors have suggested that angiomyolipoma is the only common renal tumor containing mature adipose tissue. Other neoplasms may contain mature fat that can be identified with current diagnostic imaging techniques. Under discussion is our experience with

Wilms' tumor containing a predominance o f adipose tissue. (Author abstract) (13 Refs)

2. SIGNIFICANCE OF INDIVIDUAL ANGIOGRAPHIC FEATURES IN THE EVALUATION OF THE NATURE OF POORLY VASCULARIZED RENAL PROCESSES. PART II.

Hippeli R, Wolf KJ
Medizinisches Strahleninstitut, Universitat Tubingen, Rontgenweg 11, D-7400 Tubingen, W. Germany
ROEFO; 135(3):275-282 1981

The value of various angiographic features in the evaluation of the benign or malignant nature of poorly vascularized renal processes was assessed in a series of problematic cases consisting of 50 benign and 50 malignant renal lesions. No angiographic sign exclusively characteristic of either benign or malignant renal lesions was found. Dislocation of the renal artery, occlusion of the arcuate and interlobular arteries, lacunar vascularization, and venous collaterals were more frequent in malignant than in benign processes, while dilation of the pyeloureteral artery, inhomogeneous nephrogram, vague boundary between cortex and medulla, vague outer contours, and corkscrew vessels were more frequent in benign processes. (54 Refs) (In GER)

3. RADIONUCLIDE ANGIOGRAPHY (RNA) WITH 99MTC-DTPA TO EVALUATE PALLIATIVE EMBOLIZATION OF RENAL-CELL CARCINOMA.

Moser E, Marx FJ, Gebauer A, Bull U
Radiologische Klinik und Poliklinik, Klinikum Grosshadern, Marchioninistr. 15, D-8000 Munich 70, W. Germany
ROEFO; 135(3):267-274 1981

Fourteen patients with renal-cell carcinoma, who were not amenable to nephrectomy, were subjected to palliative transfemoral embolization with butyl acrylate (Histoacryl). RNA (with 99mTc-diethylenetriamine pentaaceti acid) was performed before and after the palliative embolization to evaluate the result of this treatment. If RNA revealed residual perfusion of the tumor, functional scintigraphy with 131I-hippuran was performed to quantity the residual function. Neither residual perfusion nor residual function was found for up to 16 mo after embolization in 7/14 patients. Residual perfusion without residual functional renal parenchyma was found in five patients and residual renal perfusion with residual functional parenchyma in two. The angiography showed a tumor halo due to radioactivity accumulated by capsular arteries surrounding the avascular tumor in four cases. RNA proved to be a suitable noninvasive method for the follow-up of patients with embolized renal-cell carcinoma. (26 Refs) (In GER)

4. GALLIUM-67 SCANS IN RENAL TUMORS.

Adler J, Greweldinger J, Conradi H
Dept. Radiology, Englewood Hosp., 350 Engle St., Englewood, NJ, 07631
Urol Radiol; 3(1):27-29 1981

Two cases in which uptake of Gallium-67 into renal tumors helped in the diagnosis of these lesions are described. Although most uptake of gallium in the renal area is related to infection, occasionally it is due to neoplasms including leukemia, lymphoma, metastatic melanoma, renal carcinoma, and sarcoma. (8 Refs)

5. A COMPARATIVE STUDY OF IVP AND 'NON-INVASIVE' TECHNICS.

Timmermans L, Collard M
Rue General Jacques 196, B-4601 Vaux-sous-Chevremont, Belgium
Acta Urol Belg; 49(3):273-276 1981

A scale of diagnostic complementarity was determined for urography (UG), renal tomography (RT), and computed axial transverse tomography (CT) in 31 renal tumor patients. In most cases, UG and RT were performed systematically as the first diagnostic tests. CT, echotomography, and radio-isotope scans were performed when insufficient information was obtained from UG and RT. UG remained the recommended preliminary test, although echotomography was also found to be quite useful. In this series, two cysts were correctly diagnosed by echotomography practiced prior to iv UG. With regard to morphology, the radio-isotope scan gave the least information of initial value. In accuracy of diagnosis, UG was followed by CT. The initial accuracy of echotomography and isotope scanning were clearly inferior. In view of in its innocuous nature, echotomography is still of great value in the diagnosis of renal tumors. CT resulted in only 1 error among 31 examinations: a necrotic tumor interpreted as a renal abscess. Diagnostic errors encountered with UG and CT mainly resulted from congenital renal anomalies. Six parenchymal cysts missed by UG were diagnosed by CT and ultrasound. False positive results for UG were corrected by CT and ultrasound studies. The results indicated that UG is the primary diagnostic test for renal tumors, although CT gives comparable results. (4 Refs) (In FRE)

6. EIGHT-MINUTE EXCRETORY UROGRAPHIC FILM: ONCE IS ENOUGH.

Schey WL, White H, Shkolnik A, Finder C
Section Pediatric Radiology, Michael Reese Medical Center, Chicago, IL, 60616
Urology; 18(5):515-518 1981

A film reading exercise was developed to test the advisability and accuracy of using one 'postinfusion' roentgenogram instead of a series of films for a complete antegrade urographic evaluation. The experience of the radiologist making the interpretations was also considered. In most cases of single 8-min postinfusion delayed film showed enough detail to rule out pathology when none existed and adequately revealed either specific abnormal findings or suggested an abnormality existed when such was indeed present. No false negative call was made by any of the radiologists, but experience did aid in detailing the pathology. (Author abstract) (5 Refs)

7. ACUTE SEGMENTAL RENAL INFARCTION: DIFFICULTY IN DIAGNOSIS DESPITE MULTIMODALITY APPROACH.

Parker MD
Dept. Radiology, Bowman Gray Sch. Medicine, Winston-Salem, NC, 27103
Urology; 18(5):523-526 1981

The radiographic features of an acute segmental renal infarct are described as determined by iv urography, retrograde pyelography, ultrasonography, computed tomography, and radionuclide r enography. Despite the combined approach, the radiographic features alone were not sufficiently distinctive to permit preoperative diagnosis. The limitations of these radiographic modalities are discussed with respect to differentiating an acute segmental renal infarct from other hypovascular infiltrating renal lesions. (Author abstract) (13 Refs)

8. UNRECOGNIZED RENAL CELL CARCINOMA: CLINICAL AND DIAGNOSTIC ASPECTS.

Hellsten S, Berge T, Wehlin L
Dept. Urology, Malmo General Hosp., S-21401 Malmo, Sweden
Scand J Urol Nephrol; 15(3):269-272 1981

In a series of 16,294 autopsies 350 cases of renal cell carcinoma were found. Of these tumors 235, ie two thirds, were unrecognized during lifetime. Metastatic spread was revealed in 56 patients (24%) with unrecognized renal cell carcinoma and was the main cause of death of 49 patients (21%). In 67 patients (33%) a second malignant tumor was observed causing the death of 47 patients (20%). Most patients died with rather than from the renal malignancy. The symptomatology as to the renal malignancy was generally poor. Hematuria, palpable mass, polycythemia and fever of unknown origin were less common findings in the present series as compared with fatigue, loss of weight and symptoms from metastatic sites. (Author abstract) (12 Refs)

9. RENAL CYST FLUIDS: CYTOPATHOLOGIC EVALUATION AND SIGNIFICANCE OF LIPID CONTENT (MEETING ABSTRACT).

Ryan J, Kini SR, Smith MJ
Department of Pathology, Henry Ford Hospital, Detroit, MI
Acta Cytol (Baltimore); 25(4):441 1981

Once the diagnosis of a renal cyst has been made by roentgenography, it is necessary to determine if it is a manifestation of a benign or malignant lesion. Renal cyst aspiration provides fluid that can be examined for intact malignant cells and for the presence of their products of degeneration, such as lipid droplets. Over a four yr period, we received 240 renal cyst fluids from 204 patients. These specimens were reviewed in order to evaluate the relationship between the presence of lipid droplets and the presence of malignant neoplasms. The sediment obtained by centrifugation of each fresh, unfixed fluid aspirated from a renal cyst was examined as follows: one wet film was stained with Nile blue sulfate, one air-dried smear was stained with Sudan black and a second was stained with oil red O, and a membrane filter preparation was stained with the Papanicolaou stain for routine cytologic evaluation. The fat-stained smears were examined for intracellular and extracellular lipid droplets. Five of the six cytologically abnormal aspirates showed lipid droplets in histiocytes. Malignant neoplasm was confirmed histologically in one of the two cytologically positive cases. In 162 of the 240 (67.5%) specimens, the fat-stained smears and cytologic preparations were both reported as negative for lipid droplets and neoplastic cells, respectively. However, in 72 of the 240 (30%) specimens, the fat stain was positive for lipid droplets whereas the membrane filter preparation was negative for neoplastic cells. In conclusion, the staining for lipid droplets in renal cyst aspirates is unnecessary because it provides no diagnostic information. The routinely prepared membrane filter preparation is much more reliable in determining if a cyst is a manifestation of a benign or malignant lesion. (no Refs)

10. SUB-COSTAL XYPHO-UMBILICO FLAP: A NEW APPROACH TO THE NEOPLASTIC KIDNEY.

Giuliani L, Carmignani G, Belgrano E
Clinica urologica, Universita viale Bendetho XV, 16132 Genova, Italy
J Urol (Paris); 87(7):441-443 1981

The authors suggest a new approach to kidney tumors: the xypho-umbilical-subcostal flap incision. This incision offers the advantages of the transversal as well as of the longitudinal approach and gives a very satisfactory exposure of the surgical field. The authors report 52 cases of renal tumors operated on with this approach in the last 5 yr; because of the optimal view it allows and of the lack of complications they suggest this incision as a method of choice in the majority of the cases of renal tumor. (Author abstract) (8 Refs) (In FRE)

11. 'BENCH' SURGERY OF THE KIDNEY IN RENAL CARCINOMA (MEETING ABSTRACT).

Gittes RF
Peter Bent Brigham Hospital, Harvard Medical School, Boston, MA
Br J Urol; 53(1):76 1981

Among 20 personal cases of surgery for tumor in a solitary kidney, 6 cases were complex enough (multiple or centrally located tumors) to require removal of the kidney to a platform adjacent to the operative wound, thus avoiding division of the ureter. This 'bench' permitted cold arterial perfusion, leisurely tumor excision with confirmation of clear margins by frozen section, and accurate reconstruction of the vessels and collecting system. One case had bench surgery twice, 3 yr apart, because of a new tumor arising in the cortex of the renal remnant. Of the 7 cases treated, one 74-yr old diabetic died with retroperitoneal sepsis, a mortality rate of 14%. Temporary post-operative hemodialysis was required in 3 cases. A solitary lung metastasis appeared in one case at 3 yr; it was surgically removed and the patient appears tumor-free 4 yr later. With 1 to 8 yr of follow-up, all 5 patients have no evidence of renal failure and they are apparently free of tumor. (no Refs)

12. PALLIATIVE EMBOLIZATION OF RENAL TUMORS: FOLLOW-UP OF 19 CASES.

Ekelund L, Karp W, Mansson W, Olsson AM
Dept. Diagnostic Radiology, Univ. Hosp., 22185 Lund, Sweden
Urol Radiol; 3(1):13-18 1981

Experience with palliative embolization of arterial renal tumor supply is reported. Of 19 patients who had previously undergone palliative embolization for renal tumors, only three are st ill alive, 11, 52, and 56 mo. after embolization, respectively. Most patients died within 12 mo. Five patients had gross hematuria, which disappeared after embolization. In five patients the general condition was considered temporarily improved. In the remaining patients no beneficial effect of the treatment was noted. Embolization did not seem to affect survival. It is now thought that it may be impossible to inflict total ischemia to a renal tumor by occlusion of the renal artery. Revascularization of the tumor via collateral pathways was demonstrated in several follow-up studies. (28 Refs)

13. TRANSCATHETER EMBOLIZATION OF ADVANCED RENAL CELL CARCINOMA WITH RADIOACTIVE SEEDS.

Lang EK, DeKernion JB
(c/o deKernion) Div. Urology, Univ. California Los Angeles Sch. Medicine, Los Angeles, CA, 90024
J Urol; 126(5):581-586 1981

Advanced renal cell carcinoma was treated by transcatheter embolization with radioactive seeds. There were 14 patients with nonresectable or metastatic disease (Stage IV) and 8 with Stage III tumors treated. In 8 patients the tumor was implanted with radon seeds, complemented by 2,500 rad of external beam therapy, and 10 were treated by embolization with 125iodine seeds. The total dose delivered ranged from 1,600 to 14,000 rad. Several patients also had ia chemotherapy. Survival was

improved over previously reported studies: 13 of 22 (59%) at risk for 2 yr and 5 of 15 (33%) for 5 yr. Distant metastases did not resolve but significant local palliation was achieved. Tumor size decreased in all patients, eight of whom subsequently underwent nephrectomy. Other local effects included pain control (80%), wt gain (75%) and control of hemorrhage (80%). Toxicity was minimal and consisted of mild nausea or pain. This approach, using a low energy emitter, allows selective high dose radiation of the tumor, while sparing the adjacent normal tissues. In contrast to renal artery occlusion with inert embolic material, subsequent nephrectomy in patients with disseminated disease is not necessary. Transcatheter embolization with radioactive seeds should be considered a reasonable palliative procedure in patients with nonresectable primary renal cell carcinoma. (Author abstract) (15 Refs)

14. ABLATION OF RENAL TUMORS WITH ABSOLUTE ETHANOL: A NEW TECHNIQUE.

Ellman BA, Parkhill BJ, Curry TS, Marcus PB, Peters PC

Dept. Radiology, Univ. Texas Health Science Center at Dallas, 5323 Harry Hines Blvd., Dallas, TX, 75235

Radiology; 141(3,part1):619-626 1981

Transcatheter injection of absolute ethanol into the renal artery is an effective method of producing renal ablation. There has been no evidence of inadvertent damage to vessels or tissues remote from the target organ. The 'postembolization syndrome' of pain, nausea, vomiting, and fever is minimal when compared with other methods of renal artery occlusion. Multiple mechanisms of action of intraarterial ethanol are proposed, including perivascular tissue toxicity, sludging of erythrocytes in small arteries, small artery spasm, and endothelial damage. Experience with this technique in six patients has resulted in specific recommendations regarding the amount and method of injection of ethanol. Angiographic criteria indicating adequate renal ablation are described. (Author abstract) (14 Refs)

15. THYROID METASTASES OF HYPERNEPHROMA.

Kniemeyer HW, Palomba PP, Schacht U, Lerut J, Florack G

Chirurgische Univ.-Klinik A, Universitat Dusseldorf, Moorenstr. 5, 4000 Dusseldorf 1, W. Germany

Aktuel Chir; 16(5):162-166 1981

Characteristics of thyroid metastases of hypernephroid carcinomas are illustrated through summaries of case histories of three patients (1 man, 2 women; 57-69 yr old). In all three patients, the earliest symptoms of thyroid metastases was a thyroid node. Two patients had previously undergone nephrectomy because of hypernephroid carcinoma; in these patients, the preoperative diagnosis was metastases of hypernephroid carcinoma. In the remaining patient, the preoperative diagnosis was metastasizing thyroid carcinoma, and the final diagnosis of metastasizing hypernephroid carcinoma was established at surgery. All three patients developed lung metastases of the hypernephroid carcinoma. Two patients died due to progression of the disease 2 yr and 8 mo, respectively, after the thyroid surgery. The remaining patient (57-yr-old woman) was alive 2 yr after surgery, but had multiple metastases in the lungs. The incidence and diagnosis of thyroid metastases of hypernephroid carcinoma are discussed, with emphasis on the discrepancy between the low rate of clinical diagnoses of such metastases and the frequent finding of the metastases at autopsy. (21 Refs) (In GER)

16. METASTATIC RENAL CELL CARCINOMA: A TWENTY-YEAR REVIEW AT NATIONAL NAVAL MEDICAL CENTER, BETHESDA, MARYLAND.

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Urology Service, Natl. Naval Medical Center, Bethesda, MD, 20014

Milit Med; 146(11):761-763 1981

Renal cell carcinoma is an insidious disease which often presents only after metastatic spread. It will undoubtedly continue to challenge physicians in the future in its treatment and diagnosis, with its varied presentations and usual unrelenting progress to death. The authors report a series of 90 patients treated at a Naval Medical Center, giving the presenting symptoms, areas of metastases, and survival rates. (Author abstract) (8 Refs)

17. WILMS' TUMOR IN ADULTS: CASE REPORT AND CATAMNESTIC CLINICAL-PATHOLOGICAL INVESTIGATIONS ON THE BASIS OF 96 CASES REPORTED IN THE LITERATURE.

Stambolis C, Jundt G, Doppl W, Muller P, Karcher G, Halama J, Schultze HH

Zentrum fur Pathologie, Universitat Giessen, Langhansstrasse 10, D-6300 Giessen, W. Germany

Med Welt; 32(43):1602-1607 1981

A case of Wilms' tumor in a 27-yr-old woman is reported, and 96 cases of Wilms' tumor in adults, reported in the literature, are analyzed. Wilms' tumor was diagnosed histologically after nephrectomy. Surgery was followed by radiotherapy (total dose 4,400 rads) and chemotherapy with dactinomycin and vincristine. There were no signs of recurrence and metastasis 12 mo after surgery. The analysis of the 96 cases reported in the literature indicates that 20 patients were in the age bracket 15-20 yr, and only 2 were older than 70 yr. The men-to-women ratio was 1.4:1. The tumor was in the left kidney in 49 cases, in the right kidney in 38; bilateral tumor was found in 2 cases, one tumor was located in a third ectopic kidney, another in an extrarenal teratoma. The tumor localization was not specified in five cases. The clinical triad palpable tumor, pains, and hematuria was present in 15 cases only. The av delay between the onset of the first symptoms and treatment was 9.4 mo. Grade I was established in 25 cases, Grade II in 54, Grade III in 17. Stage I was diagnosed in 20 cases, Stage II in 30, Stage III, in 4, Stage IV in 39, and Stage V in 3. Therapy consisted of surgery, irradiation, and chemotherapy. (23 Refs) (In GER)

18. HAEMATOLOGIC FINDINGS IN PATIENTS WITH RENAL CARCINOMA.

von Knorring J, Selroos O, Scheinin TM

Dept. Surgery IV, Univ. Central Hosp., Helsinki, Finland

Scand J Urol Nephrol; 15(3):279-283 1981

Hemoglobin concentration and leukocyte and platelet counts were studied in 122 patients with renal carcinoma, 104 of whom subsequently underwent nephrectomy. In 61 of the operable patients the tumor was located within the renal capsule (Group I) and in the other 43 it had invaded the perinephric tissues (Group II). Eleven of the Group II patients also had distant metastases in one or two sites. Multiple distant metastases precluded renal surgery in 18 patients (Group III). Normochromic anemia (hemoglobin less than 120 g/l) was found in 17% and leukocytosis (greater than 8 x 10(9)/l) in 25% of the Group I patients. The corresponding frequencies for Group III were 72 and 67%. Severe anemia was found in patients

with localized tumors as well as in patients with extensive metastases. Thrombocytosis (400-800 x 10(9)/l) occurred in less than 20% of the patients in Groups I and II, but in 42% in Group III. Thrombocytopenia (less than 200 x 10(9)/l), on the other hand, which was present in 31% of the Group I patients, was less common in those with metastasizing tumors. Hematologic anomalies in renal carcinoma suggest either bone-marrow metastases or tumor-induced mechanisms such as production of erythropoietin or thrombopoietin and phagocytic and chemot actic effects of tumor cells or auto-immune processes. When uncorrected by nephrectomy in patients without signs of metastases, such hematologic findings suggest concomitant blood disorders. (Author abstract) (21 Refs)

19. HORMONE RECEPTORS IN RENAL CELL CARCINOMA. THEIR UTILITY AS PREDICTORS OF RESPONSE TO ENDOCRINE THERAPY.

Pearson J, Friedman MA, Hoffman PG
(c/o Friedman) Cancer Res. Inst., 1282 Moffitt, San Francisco, CA, 94143
Cancer Chemother Pharmacol; 6(2):151-154 1981

Estrogen (ER) and progesterone (PR) receptors were studied in 26 patients (22 men, 4 women; 36-84 yr old) with renal cell adenocarcinoma and results correlated with the responses of patients having measurable disease to hormonal therapy. Of the 26 patients, 25 had radical and 1 partial nephrectomy. Only 1/23 tumors assayed for ER had a significant receptor level (186 +-36 femtomole (fmol)/g tissue). Three of 24 tumors assayed for PR had significant titers (564 +-87, 484 +-87, 321 +-138 fmol/g tissue). In 11 tumors assayed, an av 32.4 +-13.3 mg cytosol protein/mg wet tumor tissue was found. Thus the ER+ tumor had a titer of approx 6 fmol/mg cytosol protein, while the highest PR titer was approx 17 fmol/mg cytosol protein. Only one patient had unsuccessful hormonal therapy prior to tissue sampling for ER and PR; the prior therapy could have diminished receptor titers. Ten patients who developed measurable metastatic disease subsequently were treated with hormonal therapy. In all but one, treatment consisted of high-dose progestational therapy administered either po or im. None showed any evidence of tumor regression during or after therapy. The data suggested that few, if any, renal cancers have high titers of ER or PR; those patients whose tumors have low receptor titers are unlikely to respond to hormonal therapy. (17 Refs)

20. FURTHER INVESTIGATION OF A NOVEL GAMMA-GLUTAMYL TRANSPEPTIDASE IN HUMAN RENAL CARCINOMA (MEETING ABSTRACT).

Hada T, Higashino K, Okochi T, Yamamoto H, Sumikawa H
The Third Department of Internal Medicine, Osaka University Hospital, 1-1-50 Fukushima, Osaka 553, Japan
Oncodev Biol Med; AbstractsBook,1:51 1981

A novel gamma-glutamyl transpeptidase (GGTP) found in human renal carcinoma was reported in our previous paper. In the present study, we further investigated some enzymic and immunological properties of the novel GGTP. 1) On isoelectric focusing in sucrose density gradient, the novel GGTP was more acidic than the normal kidney enzyme. But after neuraminidase treatment, both enzymes shifted to a more alkaline range and showed a similar pattern. 2) More than 90% of normal kidney GGTP activity passed through concanavalin A (Con A) sepharose column, while that of the novel one was about 60%. After neuraminidase treatment of both enzymes, about 80% of the normal kidney GGTP still passed through Con A-sepharose column, but the novel GGTP bound to Con A-sepharose column in about 75% of its total activity. 3) The inhibition patterns of both normal kidney GGTP and the novel one by anti-normal kidney GGTP antibody were almost the same. In an Ouchterlony double diffusion test the precipitin lines of the novel GGTP and the normal kidney against anti-normal kidney GGTP antibody fused completely. These data may indicate that the novel GGTP is immunologically identical with the normal kidney enzyme, but that it differs from the latter at least in its sialic acid content and in some other carbohydrate moieties. (no Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

21. REGIONAL LYMPH NODE METASTASIS FROM BLADDER CANCER.

Smith JA, Whitmore WF
Div. Urology, Dept. Surgery, Univ. Utah Medical Center, Salt Lake City, UT, 84132
J Urol; 126(5):591-593 1981

The prognosis for patients with bladder cancer metastatic to regional lymph nodes is dismal and only minimally altered by current treatment modalities. The 5-yr survival rate after radical cystectomy for 134 bladder cancer patients with positive regional lymph nodes was only 7% and 82% of the patients died of bladder cancer. Stratification of patients into groups with varying extent of nodal disease showed a correlation between the level of nodal involvement and the interval to recurrence. While 38% of the patients died of distant disease alone 25% had only pelvic recurrence, indicating a possible therapeutic effect of a systematic bilateral pelvic lymphadenectomy and implicating extrapelvic disease as a major determinant of patient survival. (Author abstract) (8 Refs)

22. BLADDER CANCER AFTER SPINAL CORD INJURY. INCIDENCE, PRESENTATION, HISTOLOGY AND PROGNOSIS COMPARED WITH BLADDER CANCER IN THE NON-PARALYSED POPULATION.

El-Masri WS, Fellows G
Natl. Spinal Injuries Centre, Stoke Mandeville Hosp., Aylesbury, Bucks, England
Paraplegia; 19(5):265-270 1981

Twenty-five patients who developed bladder carcinoma were found in the histology records of 6,744 paraplegic and tetraplegic patients. All but four have died of their bladder tumors. While the death rate (per 100,000) for bladder carcinoma in the male population in England and Wales is 7.4, that in the population of 6,744 spinal cord injury patients (taking into consideration age and sex distribution, and length of observation), is 1.1. A quarter of the patients developed their bladder tumors under age 40 yr compared to 3% in the general population. Bladder carcinoma appears to be a long-term complication of spinal cord injury or its management. Fourteen patients were injured between 1940-1949, a decade in which many patients were treated with suprapubic cystotomy (SPC). Lateral wall tumors were found in seven patients. Six patients had anterior wall tumors, three of which arose in the track of a SPC. As to histology, 11 wer e squamous, and 1 was undifferentiated. Five of the remaining 13 transitional cell tumors were partly squamous. Three of the four long-term survivors had the squamous cell type treated only by radiotherapy (RT); one had

a transitional cell carcinoma treated by cystectomy and RT. (5 Refs)

23. CAN CONVENTIONAL URINARY CYTOLOGY REPLACE CYSTOSCOPY IN THE FOLLOW-UP OF PATIENTS WITH BLADDER TUMORS?.

Dubernard JM, Amiel J, Devonec M, Neyra P, Bouvier R, Fontaniere B, Faucon M
Service d'Urologie, Hopital Edouard Herriot, 5, place d'Arsonval, 69374 Lyon Cedex 2, France
Ann Urol (Paris); 15(5):346-348 1981

A study of results of cytologic and cystoscopic investigation of 450 cases of suspected bladder tumors in 450 patients is reviewed. In 320 of the patients, both cystoscopy and cytology were negative; in 60, cystoscopy was positive and cytology was negative; in 15, cytology was positive and cystoscopy was negative; and in 34, cytology was positive and cystoscopy was negative. Negative and positive correlations were found between the two tests 82.5% of the time. When the cystoscopy was negative, negative cytologies corresponded to low grade tumors and positive cytologies to carcinomas in situ. The higher number of false negatives obtained by conventional cytology is explained by the lack of sensitivity of this test. It was suggested that both methods of investigation be used to avoid the false positives and false negatives that occur whenever cystoscopy or cytology are used alone as diagnostic tests for bladder cancer. (12 Refs) (In FRE)

24. FLOW CYTOMETRY IN THE DIAGNOSIS AND FOLLOW-UP OF BLADDER TUMORS.

Devonec M, Dubernard JM
Service d'Urologie, Pavillon V, Hopital Edouard Herriot, 5, place d'Arsonval, 69374 Lyon Cedex 2, France
Ann Urol (Paris); 15(5):349-354 1981

A study of 110 bladder cancer patients by means of flow cytometry (FCM) is reviewed. Of 50 patients whose lesions were visible for cystoscopy, 86% were positive by FCM, compared with 30% for conventional cytology. The FCM was more sensitive than conventional cytology, to low grade papillary tumors (LGPTs). Some LGPTs with a weak proliferation index were not detected by FCM. In a group of 60 examinations of patients without cystoscopic evidence of recurrence, 50% were positive by FCM, compared with 30% by conventional cytology. The FCM revealed the presence of an intravesical tumoral population in half of the patients presenting bladders that were indicated by cystoscopy as healthy. The FCM also provides a quantitive definition of the cell stages of the tumor population. It was suggested that the ability of FCM to define the proliferative index of the tumors, the ploidy levels, and the cell cycle stages may have great prognostic and therapeutic advantages. (15 Refs) (In FRE)

25. URINE VERSUS BLADDER WASHING IN URINARY CYTOLOGY (MEETING ABSTRACT).

Crabtree WN, Jukkola AF, Murphy WM
Department of Urology, University of Tennessee Center for the Health Sciences, Memphis, TN
Acta Cytol (Baltimore); 25(4):441 1981

Despite accepted use of urine cytology in the diagnosis and follow-up of bladder cancer, there remains considerable disagreement as to the optimal type of specimen that should be collected. To date, only one controlled study specifically designed to examine the relative value of urine versus bladder washing has been done. A prospective experiment designed to determine the diagnostic yield of cells in urine compared to those obtained by bladder washing was performed. Paired samples were obtained at intervals according to a protocol established by the National Bladder Cancer Collaborative Group A. All specimens were processed fresh onto Millipore filters and examined using a single set of well-defined, uniformly applied diagnostic criteria. Slides were evaluated without knowledge of clinical status, previous history or histologic findings. In 313 paired specimens from 70 patients, no or slight variation in diagnostic yield between cytoscopic urine (CU) and bladder washing (BW) occurred in 87.3%, moderate variation in 8.9% and marked variation in only 3.8%. More important, malignant tumor cells (MTC) occurred only in CU in 13.1% and only in BW in 26.2% of the paired samples. MTC were identified in both CU and BW in the remaining 60.7%. In general, BW yielded more cells than CU, but there was individual sample variation. Despite its drawbacks, urine remains a valuable source of diagnostic information and should be examined even when simultaneous bladder washings are available. (no Refs)

26. PRIMARY ADENOCARCINOMAS OF THE HUMAN URINARY BLADDER: HISTOCHEMICAL, IMMUNOLOGICAL AND ULTRASTRUCTURAL STUDIES.

Alroy J, Roganovic D, Banner BF, Jacobs JB, Merk FB, Ucci AA, Kwan PW, Coon JS, Miller AW
Dept. Pathology, Tufts Univ., Sch. Medicine, 136 Harrison Ave., Boston, MA
Virchows Arch [Pathol Anat]; 393(2):165-181 1981

Neoplastic and non-neoplastic tissue specimens from 10 patients with primary adenocarcinoma of the urinary bladder were examined. Most of these tumors were associated with either foci of transitional cell carcinoma and/or with glandular metaplasia of the bladder epithelium. The mucin produced by the neoplastic cells was PAS, alcian blue, mucicarmine, PB/KOH/PAS, and RPB/KOH/PAS-positive. ABH isoantigens of these tumors were not always deleted. Ultrastructurally, the neoplastic cells resembled goblet cells. Their plasma membrane had numerous microvilli with prominent glycocalyx. Proliferation and attenuation of tight junctions were noted. The gap junctions were few and small. Two types of desmosomes were found. The ultrastructural features of the neoplastic cells were attributed in part to the malignant transformation and in part to the direction of their differentiation. We have not observed any distinctive morphologic, histochemical, immunologic or ultrastructural features that might be diagnostic for these adenocarcinomas. (Author abstract) (53 Refs)

27. OBTURATING BLOCKADE IN TRANSURETHRAL RESECTION OF BLADDER TUMORS.

Pelikan L, Carl P
Abt. fur Anasthesiol., Kreiskrankenhaus, Perlasberger Strasse 41, 8360 Deggendorf, W. Germany
Fortschr Med; 99(40):1641-1642 1981

The cause and resultant risk of contraction of the adductor musculature during transurethral resection (TUR) of bladder tumors is described. Prevention of this contraction through blockade of the obturator nerve is discussed. TURs of bladder tumors following obturating blockade were performed in 142 patients (av age 68.9 yr) during a period of 4.5 yr. Contractions of the adductor occurred in 2.1% of the patients, but no bladder perforations resulted. The blockade procedure caused no complications. (no Refs) (In GER)

28. CYSTECTOMY FOR SUPERFICIAL BLADDER CANCER.

Bracken RB, McDonald MW, Johnson DE
Dept. Urology, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Houston, TX
Urology; 18(5):459-463 1981

One hundred nine patients with Stage O or A bladder cancer unmanageable transurethrally underwent radical cystectomy and ileal conduit urinary diversion without lymphadenectomy. Fifty-six were also given planned preoperative radiation therapy. Five-yr survival rate was 76% for the entire group. Irradiation eradicated all of the tumor (Po) in 36% of patients, no patient Po after irradiation had recurrent disease, and local recurrence was noted in only 3.5% of the irradiated patients compared with 9.4% of those not irradiated. Urethral cancer was present in 9% of our patients, a finding that does not support our previous impression that patients with multifocal bladder cancer or tumors involving the prostatic urethra had a higher than av incidence of urethral carcinoma. (Author abstract) (21 Refs)

29. PREOPERATIVE WHOLE PELVIS VERSUS TRUE PELVIS IRRADIATION AND/OR CYSTECTOMY FOR BLADDER CANCER.

Batata MA, Chu FC, Hilaris BS, Lee MZ, Varesko RW, Lee HS, Visetsiri E, Kim YS, Ong R, Whitmore WF
Dept. Radiation Therapy, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Int J Radiat Oncol Biol Phys; 7(10):1349-1355 1981

Between 1949 and 1974 449 patients with bladder cancer were treated by external megavoltage radiation (RT) and/or radical cystectomy. Radical cystectomy alone was used in 137 or following three preoperative RT schemes (312). True pelvis RT was used either 4,000 rad over 4 wk in 119, or 2,000 rad over 1 wk in 86, followed by radical cystectomy after av periods of 6 wk and 2 days, respectively. Whole pelvis RT, 2,000 rad in 5 consecutive days was given to 107 followed by cystectomy within 2 days. For all treatment groups, 5-yr survival rate in high-stage tumors of high histologic grade (mainly T3) was 9% in cystectomy alone vs 24-32% in those with preoperative RT. Five-yr survival rates for high-stage low-grade and low-stage high-grade tumors were 30 in the cystectomy alone group vs 39-51% in the preoperative RT groups; the more favorable response was noted in the whole pelvis RT group, which included 18% 5-yr survivals for T4 patients. Recurrence in the pelvis was reduced from 28% after cystectomy alone to 14-16% with true pelvis RT and 8% with whole pelvis RT. The reduced local recurrences, observed mainly in high stage or high grade tumors, was associated with tumor in low stage after RT. Metastases beyond the pelvis developed in 21-35% of the four treatment groups, indicating the inadequacy of local RT and surgery in prevention of subsequent distant spread. (7 Refs)

30. VESICOURETERAL REFLEX AND METASTATIC CELL IMPLANTATION WITHIN THE UPPER URINARY TRACT AFTER TRANSURETHRAL BLADDER TUMOR RESECTION?.

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Urologsche Klinike und Poliklinik, Technische Universitat Munchen, Ismaninger Str. 22, 8000 Munchen 80, W. Germany
Aktuel Urol; 12(5):202-205 1981

The occurrence of vesicoureteral reflex among seven patients with tumors of the renal pelvis was investigated. All seven patients had previously undergone transurethral resection (TUR) of bladder tumors. The latency period between the end of treatment for the bladder tumors and the occurrence of the tumors of the renal pelvis ranged from 3 mo to 4 yr. Vesicoureteral reflex into the involved kidney was detected by cystography or cystoscopy in six of the patients. In all of the patients, the nonreflexive side of the urinary tract was tumor-free. On the basis of these findings, it is suggested that the development of new urothelial tumors in the urinary tract following TUR of a bladder cancer results from metastatic cell implantation facilitated through vesicoureteral reflex. The implications of this conclusion are discussed with respect to its effect on the surgical technique chosen for the treatment of bladder cancer and the follow-up and postoperative care of patients who undergo such surgery. (18 Refs) (In GER)

31. SECONDARY FOCI OF PRIMARY TUMORS OF THE BLADDER IN THE UPPER URINARY TRACT.

Affre J, Michel JR, De Peyronnet R, Deltour F, Moreau JF
Service de Radiologie de l'Appareil, Hospital Necker, 75015 Paris, France
Urol Radiol; 3(1):7-12 1981

The possibility that vesicoureteral reflux causing the implantation of desquamated tumor cells from a previous bladder tumor may explain upper urinary tract recurrences is examined. Of 16 cases of upper urinary tract tumors appearing from 2-16 yr after the initial diagnosis of bladder carcinoma, vesicoureteral reflex was demonstrated directly in 6 cases, indirectly in a further six, with suggesti ve signs in three more. Thus, ureteral reflex was either certain or very probable 12 times out of 16. In only one patient were there neither direct nor indirect signs of reflux. (27 Refs)

32. SQUAMOUS CELL CARCINOMA OF THE BLADDER.

Faysal MH
Div. Urology, Dept. Surgery, Stanford Univ. Medical Center, Stanford, CA
J Urol; 126(5):598-599 1981

Medical and surgical pathological records were analyzed for 46 patients with pure squamous cell carcinoma of the bladder. Nine patients had metastatic disease at the time of presentation and the remainder had disease limited to the bladder. The 5-yr survival figures were 37% for patients with submucosal and/or muscular invasion, and 13% for those with perivesical invasion. No patient with extravesical disease survived 5 yr. The best survival figures were encountered in patients who had preoperative radiation therapy followed by total cystectomy and urinary diversion compared to other modalities of treatment. Encouraged by these results we recommend preoperative radiation therapy followed by cystectomy and urinary diversion as the treatment of choice for patients with this uncommon bladder neoplasm. (Author abstract) (6 Refs)

33. EFFICACY OF COMBINATION THERAPY WITH INTRAVESICAL INSTILLATION OF DOXORUBICIN AND LOW-DOSE RADIATION FOR BLADDER CANCER: COMPARISON WITH INSTILLATION OF DOXORUBICIN ALONE.

Kagawa S, Maebayashi K, Kurokawa K, Uyama T, Moriwaki S
Dept. Urology, Sch. Medicine, Tokushima Univ., Ehime, Japan
Urology; 18(5):478-481 1981

Intravesical instillation of doxorubicin (Adriamycin) combined with low-dose irradiation (1,600-2,000 rad) was compared with instillation of doxorubicin alone in patients with

various grades of bladder cancer. Therapeutic effects were evaluated clinically and histopathologically. Clinical evaluation based on cystoscopic findings revealed an effective rate of 22 of 49 patients (45%) in the group treated with doxorubicin alone and 43 of 49 patients (88%) in the group treated with combined therapy. Histopathologic examination showed an effective rate of 3 of 49 patients (6%) when doxorubicin alone was used, whereas this rate was 16 of 49 patients (32%) with combination therapy. (Author abstract) (7 Refs)

34. COMBINED THERAPY OF URINARY BLADDER CANCER WITH LOCALLY APPLIED RF-HYPERTHERMIA AND ADRIAMYCIN-INSTILLATION - EXPERIMENTAL AND CLINICAL FINDINGS (MEETING ABSTRACT).

Harzmann R, Bichler KH, Gericke D
Department of Urology, Universitat Tubingen, Calwer Strasse 7, 7400 Tubingen, W. Germany
Strahlentherapie; 157(9):618 1981

Clinical reports on hyperthermal perfusion of the bladder lumen for cancer therapy are contradictory. Based on numerous animal experiments we developed a new technique for homogeneous local RF-hyperthermia of the entire bladder wall using a teflon insulated optically controllable active inter nal electrode. Treatment was done with long-wave current (300-500 KHz) three x at temperatures of 43 C for 1 hr each in animal bladder tumors (rabbits, dogs), later on also in patients with advanced G-3 bladder carcinomas. Histologically incomplete tumor-necroses followed by stroma hyalinoses without side effects were found. The RF-application is now automatized using a data logger. Because of expected additional effects of locally applied adriamycin and RF-hyperthermia we started experimental studies in chemically induced urinary-bladder carcinomas of female dogs. The experimental findings prompted us to use this combined therapy clinically, too. This treatment was well tolerated and was followed by extensive tumor necroses. Indications of this primarily palliative therapy are high-risk patients and, especially, advanced inoperable bladder tumors. On the other hand, 5 of 7 patients with cystectomy after this treatment had no evidence of bladder cancer in the removed tissue. (no Refs)

35. ADJUVANT LOCAL IMMUNOTHERAPY WITH BACILLUS CALMETTE-GUERIN (BCG) IN TREATMENT OF UROTHELIAL CARCINOMA OF THE URINARY BLADDER.

Flamm J, Grof F
Urologische Abteilung, Wilhelminenspital der Stadt Wien, Montleartstrasse 37, A-1171 Wien, Austria
Wien Med Wochenschr; 131(20):501-506 1981

Local immunotherapy with BCG was tested as an adjuvant to transurethral resection (TUR) in treatment of urothelial carcinoma of the urinary bladder. Of a total of 45 patients, 33 received a single series of intravesicular instillations. Of these, 8 received 60 mg/wk, and 25 received 120 mg/wk. Twelve patients received two series of instillations; 8 received 60 mg/wk in the first series and 120 mg/wk in the second series, and four received 120 mg/wk in both series. Analysis of delayed-type cutaneous immune reactivity and infiltration of tumor and tissue by immunocompetent cells showed no correlation with stage or grade of disease. During an av follow-up period of 2.5 yr, persistent tumor was detected in 36% of cases. Tumors recurred in 59% of cases. Results indicated no therapeutic value for local BCG therapy. (21 Refs) (In GER)

36. FAMILIAL AGGREGATION OF UROTHELIAL CARCINOMA.

Mahboubi AO, Ahlvin RC, Mahboubi EO
(c/o E. Mahboubi) Eppley Inst. Res. Cancer, Univ. Nebraska Medical Center, 42nd and Dewey Ave., Omaha, NE, 68105
J Urol; 126(5):691-692 1981

Reports of unusual clinical cases in the medical literature have contributed to our understanding of the disease spectrum, especially with regard to cancer and exposure to suspected environmental factors. It was projected that in 1980 there would be 35,500 newly diagnosed bladder cancer cases in the United States, which would be the cause of approx 5% of all cancer deaths in male subjects. There are few reports on bladder cancer of familial susceptibility and genetic predisposition, with only four suc h families described in the literature. We report on a rural family with three cases of transitional cell carcinoma in two generations. (Author abstract) (14 Refs)

37. BLADDER CANCER EPIDEMIOLOGY.

Matanoski GM, Elliott EA
Dept. Epidemiology, Sch. Hygiene and Public Health, Johns Hopkins Univ., 615 North Wolfe St., Baltimore, MD, 21205
Epidemiol Rev; 3:203-229 1981

Well-known risk factors for bladder cancer are reviewed briefly; unresolved aspects of bladder cancer epidemiology are explored. Topics include mortality and incidence rates (international comparisons, demographic and geographic characteristics, time trends, personal characteristics), latency, cell type, and risk factors (smoking, sugar substitutes, coffee drinking, occupations, hair dyes, Schistosoma haematobium, risks in case clusters, viruses, drug use, and other factors and diseases). Published data on age-adjusted death rates for malignant neoplasms of bladder and other urinary organs for selected countries, annual incidence rates for selected cancer registries, age-specific death rates for malignant neoplasms of urinary organs by race and sex, correlation of age-adjusted death rates for malignant neoplasms of bladder and other urinary organs by sex for states, age-adjusted mortality and incidence rates for bladder cancer by sex for white and nonwhite races, association of smoking, coffee consumption, specific chemicals from the dye industry, and occupations with bladder cancer, and descriptive characteristics of studies relating occupation with risk of bladder cancer are presented. (108 Refs)

38. RADIATION-INDUCED BLADDER CANCER (MEETING ABSTRACT).

Kennedy DR
Royals Women's Hospital, Melbourne, Victoria, Australia
Br J Urol; 53(1):74 1981

A series of patients irradiated for cervical cancer between 1959 and 1969 and followed for 10 to 20 yr is reviewed. Eight hundred and seventy-three patients were treated and of these 331 survived 10 yr or more. In this latter group 4 patients developed a primary bladder carcinoma after a latent period varying between 11 and 16 yr. The annual incidence rate of bladder cancer in the female population is 4.9/100,000. The exposed population at risk is 4905 person yr. Therefore the expected number of cases is 0.240. The observed number is 4 and is 17 x greater than expected. This figure is statistically significant. Hematuria following radiation treatment for carcinoma of the cervix is usually due to vesical telangiectasia. Since it may occasionally be due to a bladder tumor, all such cases should be fully investigated and cystoscopy should be repeated if bleeding recurs. (no Refs)

39. THE LEUKOCYTE ADHERENCE INHIBITION ASSAY AS A MEASURE OF ANTITUMOR IMMUNITY IN BLADDER CANCER PATIENTS.

Ramsey EW, Malcolm AJ
Dept. Surgery (Urology), Health Sciences Centre, 700 William Ave., Winnipeg, Man itoba, Canada
J Urol; 126(5):600-603 1981

The leukocyte adherence inhibition test was used to assess antitumor immunity of patients with transitional cell carcinoma of the bladder. Patients and controls were tested against extracts of transitional cell carcinoma as well as extracts of renal cell carcinoma and normal bladder mucosa. Patients with transitional cell carcinoma had significantly greater reactivity compared to patients with other genitourinary disease or normal controls. With a pooled tumor extract from six different transitional cell tumors a positive response was obtained in up to 82% of patients with transitional cell carcinoma compared to 12% of patients with other genitourinary disease. These results suggest that the leukocyte adherence inhibition test is a sensitive and fairly specific test of antitumor immunity in patients with transitional cell carcinoma of the bladder. (Author abstract) (30 Refs)

40. EFFECTOR CELLS IN NATURAL CYTOTOXICITY AGAINST HUMAN BLADDER CANCER CELL LINES.

Bloom ET, Dunsworth-Browne M, Durkos-Smith D
GRECC 691/11G, Veterans Admin. Wadsworth Medical Center, Los Angeles, CA, 90073
Urol Res; 9(5):219-225 1981

Mononuclear cells were obtained from normal donors and from patients with nonmalignant genitourinary diseases, bladder cancer, and other cancers. The cells were tested for cytotoxicity after depletion of Fc-receptor-bearing (FcR+) cells by monolayer immune complex fractionation or the RBC-antiRBC monolayer technique. FcR+ cell depletion significantly decreased cytotoxicity of effector cells (ECs) against transitional cell carcinoma, colon carcinoma, and amnion target cells in a 40-hr assay. No bladder cancer-specific cytotoxicity was detected. Cultured ECs from normal donors were positive for natural killing (NK) against transitional cell carcinoma and amnion cells. The NK activity appeared to involve FcR- T and B cells since FcR+ cells were frequently undetectable. Monocytes did not play a significant role in NK. (21 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

41. ULTRASOUND OF THE PROSTATE. ANALYSIS OF TISSUE TEXTURE AND ABNORMALITIES.

Greenberg M, Neiman HL, Brandt TD, Falkowski W, Carter M
Dept. Radiology, Northwestern Univ. Medical Sch., Northwestern Memorial Hosp., Chicago, IL
Radiology; 141(3,part1):757-762 1981

Thirty-nine patients with benign prostatic hypertrophy, prostatic carcinoma, or prostatitis underwent ultrasonography using a transabdominal suprapubic approach. In both benign hypertrophy and prostatitis, the gland was enlarged and exhibited a homogeneous echo pattern, being hypoechoic in prostatitis and either hypo- or hyperechoic in hypertrophy. Carcinoma was characterized by focal areas of increased or decreased echogenicity with irregular margins. The various sonographic appearances are exp lained by correlation with the histological findings, and the advantages of the transabdominal approach are discussed. The authors suggest that widespread application of this technique will improve early detection of prostatic carcinoma. (Author abstract) (12 Refs)

42. FINDINGS OF SUPRAPUBIC PROSTATE SONOGRAPHY IN PROSTATE CARCINOMAS AND ADENOMAS.

Denkhaus H, Becker H, Bucheler E
Radiologische Klinik, Universitatskrankenhaus Eppendorf, Martinstr. 52, D-2000 Hamburg 20, W. Germany
ROEFO; 135(3):285-291 1981

Suprapubic transvesicular prostate ultrasonography (SPUS) was performed on 80 patients. Computer tomography (CT) was performed on 50 of these patients. SPUS yielded results comparable to those obtained from transrectal prostate sonography. Prostate adenomas were characterized by a rounded, encapsulated tumor shape with a homogeneous echo pattern. Edge contours of the tumors were regular. Calcifications could be distinguished. Prostate carcinomas were characterized by an irregular shape and were not sharply distinguished from surrounding tissue. Tumors produced a heterogeneous echo pattern. In cases of carcinoma SPUS provided valuable supplementary information to staging by CT. SPUS was better than CT for evaluation of the bladder base, and was more accurate than rectal palpation for diagnosis of prostate tumors. SPUS was also suitable for monitoring the progress of therapy. (25 Refs) (In GER)

43. ABC (ASPIRATION BIOPSY CYTOLOGY) OF THE PROSTATE DIAGNOSIS AND PITFALLS (MEETING ABSTRACT).

Kline TS, Kelsey DM, Kohler FP, Sommer JT
The Lankenau Hospital, Philadelphia, PA
Twenty-ninth Annual Scientific Meeting of the American Society of Cytology, November 2-7, 1981, St. Louis, Missouri. The Society 90 pp., 1981.

The prostate is a neglected organ for examination by biopsy. Yet, it is the site of the second most common carcinoma in men. The gland is easily accessible for transrectal aspiration biopsy, a one-min procedure, which may be performed in the clinician's office. We have studied more than 600 ABC specimens from this gland. Interpretation of ABC from the prostate has proven to be slightly more difficult than from other sites. By means of both on-going studies and review of false-negative aspirates, minor, as well as major criteria of diagnosis have been established with resultant increase in accuracy of diagnosis. The minor, as well as major criteria of malignancy will be discussed. The false-negative diagnosis from ABC chiefly is from the well-differentiated adenocarcinoma. This incidence has been reduced because of attention to the minor criteria of malignancy. The false-positive diagnosis in lesions of the prostate is primarily due to carcinoma, unconfirmed because of biopsy difficulties, rather than because of cell misinterpretation. Nine of our cases with positive ABC findings required two or more formal biopsies for ti ssue diagnosis. Sources of error, however, may result from misinterpretation of cells from the seminal vesicles and from prostatitis. Cells from these sources will be demonstrated. (no Refs)

44. RADICAL PROSTATECTOMY WITH PELVIC LYMPHADENECTOMY: OBSERVATIONS ON THE ACCURACY OF STAGING WITH LYMPH NODE FROZEN SECTIONS.

Fowler JE, Torgerson L, McLeod DG, Stutzman RE
Dept. Urology, Univ. Virginia Sch. Medicine, Charlottesville, VA, 22908
J Urol; 126(5):618-619 1981

The accuracy of intraoperative frozen section examination of excised lymph nodes was analyzed in 40 consecutive patients with clinical stages A2, B1 and B2 adenocarcinoma of the prostate who underwent pelvic lymphadenectomy immediately before anticipated radical prostatectomy. Lymph node metastases were observed with frozen sections and verified with paraffin sections in five cases (13%). Among the 35 patients with negative frozen sections lymph node metastases were found with paraffin sections in three cases (9%). Despite the potential for false negative findings we believe that intraoperative frozen sections constitute a practical method of pathologic staging prior to radical prostatectomy. (Author abstract) (9 Refs)

45. THE VALUE OF EXTENDED FIELD RADIATION THERAPY IN CARCINOMA OF THE PROSTATE.

McGowan DG
Dept. Radiation Oncology, Cross Cancer Inst., Univ. Alberta, 11560 University Ave., Edmonton, Alberta T6G 1Z2, Canada
Int J Radiat Oncol Biol Phys; 7(10):1333-1339 1981

Since 1970 a total of 342 patients received radical radiation therapy for prostate carcinoma. The overall estimated 5-and 8-yr survivals of 78% and 67%, respectively, remain unchanged. Initially all patients received single phase radiation to the prostate. Starting in 1975, extended field (two phase) radiation was used in patients with advanced cancer and in selected cases of early cancer. Comparison of results in patients with early cancer after 4 yr in 150 patients treated by single phase vs 57 treated by two phase radiation showed no significant difference in survival (78% vs 82%). However, in late stage disease (B2 and higher) there was a significant difference ($p = 0.01$) 63% vs 35% in 41 and 92 patients treated by single and two phase radiation, respectively. While the study was non-randomized, results were obtained when there had been no other change in treatment philosophy. (18 Refs)

46. COMPLICATIONS OF DEFINITIVE RADIOTHERAPY FOR CARCINOMA OF THE PROSTATE.

Pilepich MV, Perez CA, Walz BJ, Zivnuska FR
4511 Forest Park Blvd., Suite 311, St. Louis, MO, 63108
Int J Radiat Oncol Biol Phys; 7(10):1341-1348 1981

Morbidity related to radiotherapy was analyzed in 267 patients treated between 1967 and 1978 and followed for at least 2 yr (av 4 yr). Between 1967 and 1977 all patients were treated with a 22 Megavolts (MV) betatron beam to a pelvic dose of approx 5,000 rad followed by boost to gradually reduced fields to a total of 6,500-7,000 rad to the prostate. Since 1977 48 patients were treated with a 20 MV or 35 MV linear accelerator using 270 degree rotational arc for the final boost; this technique eliminated the high dose area to the anterior prostate and reduced dose to the rectum. The most frequent complications were urethral stricture (14), proctitis (12), hematuria (5), urinary incontinence (4), chronic cystitis (4), and leg edema (8). The incidence of these complications was not correlated with total dose, previous transurethral resection or patient age. Pelvic lymphadenectomy was associated with a 25% incidence of leg and genital edema. Two of three patients that developed small bowel obstruction had previous laparotomies. Symptoms secondary to bladder and rectal injuries were reversible in over 50% of patients within 1 yr of onset. There was a somewhat higher percentage of patients treated with larger radiation fields who developed complications. (15 Refs)

47. COMPLICATIONS OF 125IODINE IMPLANTATION AND PELVIC LYMPHADENECTOMY FOR PROSTATIC CANCER WITH SPECIAL REFERENCE TO PATIENTS WHO HAD FAILED EXTERNAL BEAM THERAPY AS THEIR INITIAL MODE OF THERAPY.

Cumes DM, Goffinet DR, Martinez A, Stamey TA
Stanford Univ. Sch. Medicine, 5901 Encina Rd., Goleta, CA, 93017
J Urol; 126(5):620-622 1981

The operative, postoperative and late complications of 125iodine implantation and pelvic lymphadenectomy in 36 patients with curable prostatic cancer are described. Of these patients 14 had undergone previously external beam therapy that failed, and it is in this group that the major morbidity occurred. The possible mechanism of these complications is discussed, as well as the criteria for case selection to prevent these complications. (Author abstract) (4 Refs)

48. EPIDIDYMAL METASTASIS FROM PROSTATIC CARCINOMA.

Addonizio JC, Thelmo W
Dept. Urology, Westchester County Medical Center-New York Medical Coll., Valhalla, NY
Urology; 18(5):490-491 1981

The ninth case of prostatic carcinoma metastasizing to the epididymis is presented, and we review the literature. (Author abstract) (12 Refs)

49. LONG-TERM EFFECTS OF ENDOCRINE TREATMENT ON SERUM PITUITARY HORMONES IN ADVANCED PROSTATIC CARCINOMA PATIENTS.

Lukkarinen O, Hammond GL, Kontturi M, Vihko R
Dept. Surgery, Univ. Oulu, Oulu 22, Finland
Scand J Urol Nephrol; 15(3):207-211 1981

Peripheral serum concentrations of FSH, LH, prolactin and ACTH were measured in 22 patients with advanced prostatic carcinoma treated by castration, polyestradiol phosphate (Estradurin(R)) administration and a combination of castration and Estradurin(R) administration during the first 12 months of treatment. Estradurin(R) treatment alone (80 mg im once a month) did not result in any significant changes in the circulating concentrations of FSH, LH and prolactin. Therefore, the clear-cut inhibition of testicular steroidogenesis observed under this kind of treatment does not appear to be due to an inhibition of pituitary gonadotropin secretion, and is most likely due to a direct estrogen effect on Leydig cells. Castration led to grossly elevated serum FSH and LH levels. In this group, serum FSH remained at a high level, whereas LH was close to pretreatment levels 9 months after castration, suggesting differences in pituitary capacity to secrete FSH and LH under these conditions. Concentrations of circulating FSH, and to a lesser extent LH, in the combination treatment group were between those found in the castration and estrogen-only treatment groups, suggesting that the secretion of both gonadotropins can be suppressed by estrogen. No changes in serum prolactin and ACTH concentrations were seen in the three treatment groups. (Author abstract) (21 Refs)

50. EFFECT OF CYPROTERONE/ACETATE (SH-714) ON PLASMA PROLACTIN IN PATIENTS WITH PROSTATIC CANCER.

Holub G, Lunglmayr G, Spona J
Urologische Universitatsklinik, Alserstrasse 4, A-1090 Wien, Austria
Urol Res; 9(5):245-247 1981

Plasma prolactin (PR) levels were measured by radioimmunoassay in 10 prostatic cancer patients (age 50-78 yr) treated primarily with cyproterone acetate (CA: 300 mg/wk). Orchiectomy was not performed. Pretreatment PR levels were av 7.01-9.50 nanog (ng)/ml. The levels did not increase significantly during the first 5 mo of treatment, but they were significantly elevated by mo 6 to av 15.93 ng/ml (p less than 0.05). However, the effect of CA was less pronounced than that of estrogens. (18 Refs)

51. RADIOIMMUNOASSAY OF TISSUE STEROIDS IN ADENOCARCINOMA OF THE PROSTATE.

Belis JA, Tarry WF
Dept. Urology, West Virginia Univ., Morgantown, WV, 26506
Cancer; 48(11):2416-2419 1981

Tissue steroid levels in 48 needle-biopsy samples of adenocarcinoma of the prostate were quantified by radioimmunoassay (RIA). Tissue levels of dihydrotestosterone (DHT), estradiol-17beta, and estrone were correlated with tumor stage, histologic grade, and patient response to endocrine therapy. All patients with well-differentiated carcinoma of the prostate had tissue DHT content greater than 2.0 ng/g while 35% of patients with moderately differentiated or poorly differentiated tumors had tissue DHT content less than 2.0 ng/g. DHT content appeared to be unrelated to tumor stage. Estradiol and estrone content correlated well with tumor grade but not with tumor stage. DHT levels were measured in 17 patients with symptomatic Stage D2 carcinoma of the prostate. Thirteen patients with DHT content greater than 2.0 ng/g initially had an objective and/or subjective response to endocrine therapy. Four patients with tissue DHT levels below 2.0 ng/g had no response to hormonal therapy. Quantification of tissue DHT content by RIA is a promising method for predicting initial response to hormonal therapy in adenocarcinoma of the prostate. (Author abstract) (16 Refs)

52. RECENT TRENDS IN MORTALITY FROM PROSTATE CANCER IN MALE POPULATIONS OF AUSTRALIA AND ENGLAND AND WALES.

Holman CD, James IR, Segal MR, Armstrong BK
NH and MRC Res. Unit Epidemiology and Preventive Medicine, Dept. Medicine, Univ. Western Australia, Crawley, 6009, Australia
Br J Cancer; 44(3):340-348 1981

Mortality rates from cancer of the prostate in successive periods from 1908 to 1978 in Australia, and 1911 to 1977 in England and Wales, have been examined for trends with time and birth cohort. Age-specific rates and a proportional hazards model, designed to isolate the effect of birth cohort from those of calendar yr and age, were used in the analysis. During the period of study, age-standardized mortality rose more than five-fold in Australian men compared to just over three-fold in men in England and Wales. In both countries the increases occurred almost entirely before 1960, with relative stability in age-standardized rates since then. The trends in mortality with yr of birth were similar in the two sets of data. The risk of death from prostate cancer increased with successive birth cohorts to reach a peak in men born around 1865-1880 in Australia and men born around 1876-1896 in England and Wales. Males born later experienced a continuing reduction in rates, with the exception of age groups between 50 and 69 in which a further increase has appeared, starting with cohorts born after 1910. On the basis of current knowledge of the etiology of prostate cancer, possible relationships between changes in sexual practices and prostate-cancer risk in successive generations have been explored. It is suggested that lowered sexual activity during the Great Depression may account for the recent cohort-based increases in mortality in middle-aged men. (Author abstract) (24 Refs)

53. A PRELIMINARY STUDY OF THE CREATINE KINASE BB ISOENZYME AS A TUMOR MARKER (MEETING ABSTRACT).

Fritsche HA, Wertlake SE
Department of Laboratory Medicine, University of Texas System Cancer Center, M. D. Anderson, Hospital Houston, TX, 77030
Oncodev Biol Med; AbstractsBook,1:P15 1981

We have used a radioimmunoassay (RIA) procedure to measure the BB isoenzyme of Creatine Kinase (CK-BB) in the serum of patients with cancer. The normal range for the assay was established in a study of 170 blood donors. The upper limit of normal for CK-BB was 8.0 ng/ml and no effect of age or sex on the normal range was observed. Serum CK-BB levels were determined in 255 cancer patients with a varie ty of neoplastic diseases who were in various stages of their disease. Serum CK-BB elevations were frequent y observed in patients with adenocarcinoma of the gastrointestinal (GI) tract, breast and prostate. Approx 50% (10/24) of the patients with GI tract malignancy undergoing therapy and 30% (6/18) patients with breast cancer had elevated serum CK-BB levels. Elevations of CK-BB in patients with prostate cancer appeared to correlate with the presence of metastatic bone disease. CK-BB elevations by RIA were confirmed by electrophoretic studies. Serial determinations of CK-BB in patients undergoing therapy correlated with the clinical response to therapy and elevations of serum CK-BB in disease free patients signaled recurrence of the disease. Borderline elevations of CK-BB (8.0-10.0 ng/ml) were observed in some cancer patients with renal failure and drug induced cardio-toxicity. These preliminary studies suggest that the CK-BB test may be useful in the clinical management of patients with cancer. (no Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

54. SCROTAL ULTRASOUND (MEETING ABSTRACT).

Leopold GR
No affiliation given
Body Imaging: Sixth Annual International Conference, October 10-18, 1981, Maui Hawaii International Body Imaging Conference; 1981

Recent advances in instrumentation have afforded a method on analyzing the contents of the scrotal sac with great precision. This non-painful, non-invasive method is gaining increasing acceptance from urologists as an important means of studying many different types of pathology of this area. Although standard contact scanning with 5-7 MHz transducers can provide useful information, we have accumulated considerable experience with a 10 MHz high resolution real time system that greatly facilitates this examination. Although the real time feature of the instrument is not essential, it allows conclusion of

the examination in a few min - as opposed to longer times when individual section scans must be performed. Using this device, the normal testicle has a finely granular, homogeneous gray scale texture. The epididymis is visualized as a much coarser, highly echogenic structure. A small amount of fluid may be seen surrounding the testicle in many normal individuals. Ultrasonic examination is useful in post trauma states to determine the intactness of the testicle and to evaluate for hydrocele. In inflammatory conditions, swelling of the epididymis and/or testicle, as well as localized abscess formation may be detected. With regard to intrascrotal tumors, it has been particularly helpful. First, the point or origin of the mass can almost always be determined. This is in itself often of great help, since physical examination may be painful or inconclusive. Testicular tumors larger than 5 mm in size are easily detected. The majority of these seem to be o f low level echogenicity when compared to normal parenchyma. We have however, seen one chronic abscess of the testicle which could be differentiated from tumor on either clinical or ultrasound examination. Finally, ultrasound may be successful in locating clinically occult tumors in patients who present with retroperitoneal adenopathy of unknown origin. (2 Refs)

55. IMPACT OF DELAY IN DIAGNOSIS ON CLINICAL STAGE OF TESTICULAR CANCER.

Bosl GJ, Goldman A, Lange PH, Vogelzang NJ, Fraley EE, Levitt SH, Kennedy BJ

(c/o Vogelzang), Univ. Minnesota Hosp., Box 286, Minneapolis, MN, 55455

Lancet; 2(8253):970-973 1981

Of 335 patients with germ-cell testicular cancer, 87.5% of the patients had symptoms related to the testis. Only 40% of the patients saw a physician within 2 wk. Similarly, testicular signs were present in more than 90% of patients, but in only 61% of patients was a correct diagnosis made within 2 wk of the initial physician visit. The length of the patient-related and physician-related delay was directly related to the clinical stage of the cancer at diagnosis. The median patient-plus-physician delay for Stage I was 75 days, for Stage II, 101 days, and for Stage III, 134 days ($p = 0.017$). Education programs for the public and for physicians are needed to reduce delay in diagnosing testicular cancer. (Author abstract) (21 Refs)

56. RETROPERITONEAL LYMPHADENECTOMY FOR GERM CELL TUMOR OF TESTIS IN ASSOCIATION WITH HORSESHOE KIDNEY.

Sogani PC, Whitmore WF

Urologic Service, Dept. Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY

Urology; 18(5):446-452 1981

Four of 310 patients (1.3%) who underwent retroperitoneal lymphadenectomy for germ cell tumor of the testis at Memorial Sloan-Kettering Cancer Center (MSKCC) between July, 1971, and July, 1978, had incidental finding of horseshoe kidney. The management of these four patients is presented, with specific reference to the surgical technique of retroperitoneal lymphadenectomy. Retroperitoneal lymphadenectomy can be performed by adequate mobilization of the renal isthmus without the need of its division. (Author abstract) (7 Refs)

57. NON-SEMINOMATOUS TESTICULAR TUMOURS-THE BRITISH EXPERIENCE (MEETING ABSTRACT).

Blandy JP

Department of Urology, The London Hospital, London, England

Br J Urol; 53(1):68 1981

The question whether radiotherapy or lymph node dissection is better for non-seminomatous testicular tumors is still actively debated after 20 yr. During this period there has been a steady improvement in the technique and results of either form of treatment, but a direct comparison has been made difficult by constant improvement and change in methods of detecting retroperitoneal metastases by lymphography and computed axial tomographic scanning, their monitoring by alpha fetoprotein and b eta human chorionic gonadotropin markers necessitating repeated redefinition of the stage of the disease. Frequent changes in histological nomenclature have further confused the issue, and the discovery of tumor markers by immunoperoxidase techniques in seminoma once more raises the whole question of the validity of such pathological classification. A recent careful review of the evidence suggests that there was little to choose between the results of radiation or node dissection until about 4 yr ago, when many North American centers reported far superior results - at least in embryonal carcinoma - after node dissection. This superiority could largely be explained by the different criteria used for staging, but in any event the original area of controversy has been largely rendered irrelevant by the impressive achievements of chemotherapy developed very largely in the same centers where the concomitant perfection of the technique of node dissection had permitted accurate and exact pathological staging. (no Refs)

58. MANAGEMENT OF NON-SEMINOMATOUS TUMOURS (MEETING ABSTRACT).

Gittes RF, Richie JP, Garnick MB

Peter Bent Brigham Hospital and Sidney Farber Cancer Center, Boston, MA

Br J Urol; 53(1):68 1981

Radiation therapy has been abandoned in favor of combined surgery and chemotherapy in this disease. Cases without detectable metastases (Stage I) and those with early node involvement (elevated markers) but no bulky disease on computed axial tomographic (CAT) scan are treated with retroperitoneal node dissection, with care to protect the ejaculatory reflex by sparing the sympathetic ganglia and hypogastric plexus on one side. Only cases with detected distant metastases (Stage III) or 'bulky' nodes over 2 cm ('advanced' Stage II) detected by CAT scan, or positive markers after retoperitoneal node dissection receive chemotherapy in the form of 4 cycles of vinblastine (0.2 mg/kg/days 1,2), bleomycin (30 u weekly) and cis-platinum (20 mg/m(2)/days 1-5). They then have 'evaluative' surgical resection of residual retroperitoneal masses. Later they receive added cycles of adriamycin (50 mg/m(2)) and cyclophosphamide (500 mg/m(2)), 5 cycles if the excised tumor consisted only of mature teratoma or fibrosis and 10 cycles if 'active' or immature cells were found. About 90% of such advanced cases have been found free of disease at a median follow-up of 2 yr. Since retroperitoneal node dissection alone is a proven curative procedure for 80% of early Stage II cases, the later 'rescue' of the surgical failures by chemotherapy offers an overall better than 95% cure rate for Stages I to II, while sparing the vast majority from the rigors of chemotherapy and from the long-term limitations of radiotherapy. (no Refs)

59. PATTERNS OF CARE OUTCOME STUDIES: RESULTS OF THE NATIONAL PRACTICE IN SEMINOMA O F THE TESTIS.

Hanks GE, Herring DF, Kramer S
Radiation Oncology Center, Sacramento, CA, 95819
Int J Radiat Oncol Biol Phys; 7(10):1413-1417 1981

A Patterns of Care Study for the yr 1973 surveyed 459 patients with seminoma of the testis treated in 163 selected supervoltage radiation (RT) therapy facilities. Minimum work-up was obtained for 62% (387), lymphangiogram in 62%, and iv pyelogram in 75%. Recurrence-free survival at 4 yr, with staging according to a modification of the Walter Reed system is: Stage I, 97%; Stage II, 97%; and Stage III, 70%. Survival in a group (Stage IC) who had no evaluation of retroperitoneal lymph nodes was 87%. This national survey showed treatment with larger amounts of RT; 53% of Stage I patients received greater than 3,000 rad in prophylactic treatment of retroperitoneal lymph nodes. While lower doses were used with supradiaphragmatic RT, 12/72 received over 3,000 rad. Subdiaphragmatic doses greater than 3,000 rad were given to 62% of patients. Major complications (those requiring hospitalization) occurred in 9 patients (2%); these were unrelated to RT dose or Karnofsky status, but were more frequent in those greater than 40 yr of age (8 cases). Most complications could be avoided by using appropriate RT doses and treatment techniques. (17 Refs)

60. CISPLATIN-ASSOCIATED CORTICAL BLINDNESS.

Pippitt CH, Muss HB, Homesley HD, Jobson VW
Section Gynecologic Oncology, Bowman Gray Sch. Medicine, 300 South Hawthorne Road, Winston-Salem, NC, 27103
Gynecol Oncol; 12(2,part1):253-255 1981

Recently, J. J. Berman and M. P. Mann documented transient cortical blindness and seizures in a 30-yr-old man with testicular carcinoma during treatment with cisplatin in combination with vinblastine and bleomycin. Numerous publications have reported the gastrointestinal, renal, audiologic, and hematologic side effects of cisplatin. Cortical blindness occurs when the cerebral cortex is injured sufficiently to interrupt vision. Because cisplatin alone or in combination with other agents is being used much more frequently in patients with gynecologic malignancies, a patient with cervical cancer developing cortical blindness after single agent therapy with cisplatin is reported. (Author abstract) (6 Refs)

61. TREATMENT OF MALIGNANT TUMORS OF THE SPERMATIC CORD: A STUDY OF 10 CASES AND A REVIEW OF THE LITERATURE.

Blitzer PH, Dosoretz DE, Proppe KH, Shipley WU
Dept. Radiation Medicine, Massachusetts General Hosp., Boston, MA
J Urol; 126(5):611-614 1981

Ten patients with sarcoma of the spermatic cord were treated at our hospital between 1940 and 1977. Although there are 191 reported cases in the literature controversy remains concerning optimal treatment. In our series of 10 patients 5 of 7 (71%) followed for more than 5 yr postoperatively h ave suffered local recurrence. Thus, we believe that this treatment is inadequate and recommend postoperative radiation therapy to the scrotum and pelvis. Of our patients two suffered recurrence in the retroperitoneal lymphatics and we favor dissection of these nodes as part of the initial treatment. (Author abstract) (27 Refs)

62. LACTIC DEHYDROGENASE IN THE MONITORING AND PROGNOSIS OF TESTICULAR CANCER.

Lippert MC, Javadpour N
(c/o Javadpour), NCI, NIH, Room 10N222, Bethesda, MD, 20205
Cancer; 48(10):2274-2278 1981

In a prospective study of 80 patients with germinal testicular cancer, serial determinations of lactic dehydrogenase (LDH), alpha-fetoprotein (AFP) and human chorionic gonadotrophin (HCG) were followed for a mean of 18.1 mo. Serum LDH was found to be elevated more frequently with increasing tumor bulk. LDH was elevated in 78.0% of the patients with Stage III disease but only 26.3% of the Stage II patients and 20.0% of the pre-orchiectomy Stage I patients. In this study, serum HCG and AFP levels were always elevated in the presence of elevated serum LDH levels except in one patient when LDH was the only elevated marker, in which case it correlated with clinical disease. Correlation of these three serum markers is shown by elevation of LDH in 78.0% of the Stage III patients, AFP in 78.6%, and HCG in 76.2%. In addition, of the 43 patients who had normal LDH levels on initial presentation, their mean survival time (MST) at the end of the study was 15.5 mo while the 26 patients who had elevated LDH levels on initial presentation had an MST of 9.2 mo. Serum LDH, therefore, may be useful in evaluating patient prognosis as well as an adjunct in monitoring the treatment of patients with bulky testicular cancer. The combination of LDH and HCG has been utilized to monitor the treatment of seminoma. (Author abstract) (16 Refs)

63. PLACENTAL ALKALINE PHOSPHATASE: A USEFUL TUMOR MARKER FOR SEMINOMA (MEETING ABSTRACT).

Lange PH, Millan JL, Stigbrand T, Ruoslahti E, Fishman WH
Department of Urologic Surgery, University of Minnesota, Minneapolis, MN
Oncodev Biol Med; AbstractsBook,1:49 1981

There is a relative lack of clinically useful serum markers in testicular tumor patients (pts) with pure seminoma (Sem). We studied the prevalence and clinical value of serum placental alkaline phosphatase (PlAP) in testicular tumor using a sensitive and specific ELISA. One hundred and sixty-seven sera from 66 pts were studied: 22 with active Sem, 16 with active nonseminomatous germ cell testicular tumor (NSGCT), and 28 controls including 22 with inactive testicular tumor. Serial studies were performed in 10 active testicular tumor pts. Serum PlAP levels were elevated in 12/22 (55%) with active Sem. Seven/12 also had elevated human chorionic gonadotropin (hCG) levels and 68% had elevated PlAP and/or hCG levels. No PlAP elevations were found among the controls. In serial studies of 8 Sem pts, PlAP levels were often discordant with hCG levels and provided unique and useful clinical information in 5. Only 2/16 NSGCT pts had elevated PlAP levels and they were not informative clinically. Both serum PlAP and hCG levels shouid be monitored in Sem pts. (no Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

64. PERCUTANEOUS PYELOGRAPHY.

Steg A, Boccon-Gibod L, Fretin J
Clinique Urologique, Hopital Cochin, 27, rue du Faubourg-Saint-Jacques, 75674 Paris Cedex 14, France
Ann Urol (Paris); 15(5):307-312 1981

A study of 330 cases of percutaneous pyelography (PP) is reviewed. Among these cases, 21 were for tumors of the ureter and 49 were for tumors of the bladder. The greatest number of cases involved postoperative pelvic surgery (65), of which 7 were hysterectomies for cancer. PP is particularly recommended for tumors of the ureters and bladder because it indicates the limits of these tumors and enables cytological examinations to be performed on the urine. (no Refs) (In FRE)

65. TRANSITIONAL CELL TUMOURS OF THE UPPER URINARY TRACT RADICAL OR CONSERVATIVE TREATMENT?

Kjaer TB, Jorgensen TM, Frederiksen P, Genster HG
Dept. Urology, Univ. Inst. Pathology, Municipal Hosp., Aarhus, Denmark
Scand J Urol Nephrol; 15(3):235-238 1981

Surgical treatment of uro-epithelial tumors of the upper urinary tract is analyzed in a series of 63 patients from the period 1950-1975. A high percentage of the patients showed postoperative renal insufficiency. The feasibility of kidney-conserving surgery in selected cases is discussed in the light of these results. (Author abstract) (13 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

66. STUDIES ON THE GROWTH OF A MURINE RENAL CELL CARCINOMA AND ITS METASTATIC PATTERNS.

Williams PD, Pontes EJ, Murphy GP
Dept. Experimental Surgery, Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
Res Commun Chem Pathol Pharmacol; 34(2):345-349 1981

Metastatic lung tumor cells from a murine cell adenocarcinoma were implanted in Balb/C mice for 12 transfer generations. Survival time of the implanted mice was observed to decrease from 48 days to 28 days. The incidence of lung metastases increased from 40% to 90%. These studies suggest a selection process under the terms of the experiment that has resulted in a change in the metastatic potential of the primary tumor and its serial passage of metastases. The results are compatible with current concepts regarding cell selection in this cancer state but do not, at the present time, precisely define how this is achieved. Appropriate and selective studies are ongoing to address this important issue. (Author abstract) (no Refs)

67. MITOCHONDRIAL ANOMALIES IN RENAL ONCOCYTES INDUCED IN RAT BY N-NITROSOMORPHOLINE.

Krech R, Zerban H, Bannasch P
Abteilung fur Cytopathologie, Deutsches Krebsforschungszentrum, D-6900 Heidelberg 1, W. Germany
Eur J Cell Biol; 25(2):331-339 1981

Renal oncocytes were induced in male Sprague-Dawley rats by oral application of N-nitrosomorpholine (NNM) in concentration of 12 or 50 mg/100 ml drinking water and analyzed by transmission electron microscopy. The oncocytes exhibited mitochondrial anomalies which were very similar to those of human oncocytoma oncocytes. The most striking mitochondrial changes were an unusually large number of the organelles and an excess of the cristae mitochondriales. The shape of the mitochondria varied from round and oval to extremely elongated slender or cup-shaped organelles often piled up to form complex bodies. Rarely large ramifying mitochondria were found. In addition to transversely orientated cristae or tubules the inner mitochondrial membranes frequently formed dense stacks of unusually long cristae often arranged longitudinally. In some mitochondria straight and strictly parallelly arranged neighboring cristae were found to be connected by a paracrystalline array of pillars bridging the mitochondrial matrix. In the majority of oncocytes the mitochondrial matrix contained prominent dense granules (diameter 30-50 nm), but sometimes these were rare or absent. Individual mitochondria of many oncocytes showed membrane-bound deposits of glycogen particles which usually formed rosettes with a diameter of about 80 nm. Partitioned mitochondria were not seen. Often autophagic vacuoles containing portions of degraded mitochondria and dense bodies, probably autophagosomes, were observed. The nature and significance of the oncocytes remains unclear, but we suggest from these and earlier experimental results that oncocytes represent a special type of a neoplastically transformed cell which usually has only a low potential for 'autonomous' growth. Renal oncocytes induced in rats by chemical carcinogens appear to be an excellent experimental model for the further investigation of this cell type. (Author abstract) (46 Refs)

68. ENHANCEMENT OF ANTITUMOR EFFECT BY MAGNETIC CONTROL OF A MICROENCAPSULATED ANTICANCER DRUG.

Kato T
Dept. Urology, Akita Univ., Sch. Medicine, Hondo, Akita 010, Japan
Gan To Kagaku Ryoho; 8(5):698-706 1981

Responding to the need for selective cancer chemotherapy, magnetically controlled chemotherapy was investigated. For this purpose, two types of ferromagnetic mitomycin C microcapsules were prepared: an outer type with mean particle size of 308 um containing mitomycin C as a core covered with ethylcellulose and ferrite particles, and an interior type with mean particle size of 250 um containing both mitomycin C and ferrite particles as a core covered with ethylcellulose. In vitro analysis of th ese capsules indicated their sustained-release property and sensitive magnetization. Animal studies showed that the capsules could be guided in the aorta under the usual magnetic filed exerted from a conventional magnet. V2 tumors in the rabbit limb and urinary bladder were successfully treated by magnetic control of the capsules in the artery and bladder, respectively. Pharmacokinetic studies revealed that the magnetically controlled chemotherapy markedly increased the prolonged drug absorption into the target tissues, thus enhancing the antitumor effect of the encapsulated drug. The results strongly suggest the feasibility and effectiveness of magnetic

control of a microencapsulated anticancer drug in the artery and/or luminal spaces. The prospect of this kind of cancer treatment is discussed. (11 Refs) (In JPN)

69. A FUNDAMENTAL STUDY OF REGIONAL CHEMOTHERAPY GIVEN BY INTRAARTERIAL INFUSION WITH CONCOMITANT HEMODIALYSIS AND HEMOPERFUSION.

Kamidono S, Hamami G, Fujii A, Ishigami J
Dept. Urology, Kobe Univ., Sch. Medicine, Kusunoki-cho, Ikuta-ku, Kobe 650, Japan
Invest Urol; 19(3):176-178 1981

In the intraarterial infusion of anticancer drugs, the majority of systemic side effects are caused by the systemic circulation of the infused drug. If the extraregional infusate could be removed by hemodialysis (HD) or direct hemoperfusion (DHP), side effects in the intraarterial infusion therapies could be mitigated and regional administration of anticancer drugs in large doses would then be possible. To substantiate this postulate, the authors carried out in vivo experiments using mongrel dogs, and obtained the results evidencing removal of extra regional anticancer drugs by HD and DHP. The max mitomycin C clearance of HD was 35.7 ml per min, whereas that of DHP was 119.7 ml per min. The results show the usefulness of concomitant use of HD or DHP in the intraarterial infusion of anticancer drugs via internal iliac artery in the treatment of cancer of the urinary bladder. (Author abstract) (7 Refs)

70. EFFECT OF REGENERATIVE HYPERPLASIA ON THE URINARY BLADDER: CARCINOGENICITY OF SODIUM SACCHARIN AND N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE.

Cohen SM, Murasaki G, Fukushima S, Greenfield RE
Dept. Pathology, Univ. Nebraska Medical Center, 42nd and Dewey Ave., Omaha, NE, 68105
Cancer Res; 42(1):65-71 1982

The effect of ulceration of the urinary bladder or bladder carcinogenesis induced by N-[4-(5-nitro-2-furyl)-2-thiazolyl]formamide (FANFT) or sodium saccharin was evaluated in 5-wk-old F344 rats which were all killed 2 yr after the start of the experiment. The results indicate that long-term feeding of sodium saccharin, a nonmutagen, appears to be capable of inducing bladder tumors if administered to a rat with a proliferating bladder mucosa even without FANFT 'initiation.' Ulceration was induced by freezing. FANFT was fed at a level of 0.2% of the diet for 2 wk, and sodium saccharin was fed as 5% of the diet for 102 or 104 wk. Ulceration followed immediately by FANFT administration and then by control diet for 102 wk did not result in bladder tumors, whereas FANFT administration followed by ulceration and then control diet for a similar period induced bladder tumors. Ulceration followed by FANFT administration and then by 102 wk of sodium saccharin feeding induced bladder tumors, but ulceration followed by 2 wk of control diet followed by 102 wk of sodium saccharin feeding induced a similar incidence of tumors. Ulceration followed immediately by sodium saccharin (fed for 104 wk) induced a slightly lower incidence of tumors. FANFT followed by sodium saccharin without ulceration induced a single bladder carcinoma, but either chemical alone did not induce bladder tumors. Ulceration of the urinary bladder produced by a single ip injection of cyclophosphamide (100 mg/kg) gave similar results as ulceration by freezing. Ulceration alone induced by freezing or cyclophosphamide was followed by a reversible, regenerative nodular and papillary hyperplasia, and the bladder mucosa returned to normal in 3 to 4 wk after ulceration and remained normal through 2 yr. The lack of enhancing effect of FANFT, a potent mutagen, compared to control diet and ulceration induced by cyclophosphamide, a mutagenic alkylating agent, compared to ulceration induced by freezing support the hypothesis of carcinogenesis occurring without mutation. These results may also help to explain the carcinogenicity of sodium saccharin in two-generation and pellet implantation experiments and may assist in the identification of populations with increased susceptibility to bladder cancer. (Author abstract) (53 Refs)

71. ANDROGEN STIMULATED CHEMOTHERAPY IN THE DUNNING R-3327 PROSTATIC ADENOCARCINOMA.

Grossman HB, Kleinert EL, Lesser ML, Herr HW, Whitmore WF
Section Urology, Univ. Michigan Medical Center, 1405 East Ann St., Box 03, Ann Arbor, MI, 48109
Urol Res; 9(5):237-240 1981

The effect of testosterone (T: 2 mg, sc) on tumor response to methotrexate (MTX: 0.58 mg/kg, ip, for 5 consecutive days followed by a 16-day rest period) was studied in 20 castrated Copenhagen rats bearing transplanted, hormone-responsive Dunning G strain adenocarcinomas. Tumor growth curves for this group were compared with curves for sham-operated controls and animals treated by castration, castration + MTX, or castration + T. The castrated group treated with T and MTX exhibited the least tumor growth and was the only group differing significantly from the control group; however, no increased survival (median, 33 days) was apparent. (5 Refs)

72. TRANSFERRIN IN THE RAT PROSTATE DUNNING TUMOR.

Wilson EM, French FS, Petrusz P
Dept. Pediatrics, Univ. North Carolina, Chapel Hill, NC, 27514
Cancer Res; 42(1):243-251 1982

A major protein of the rat Dunning prostate tumor has been purified. It has physicochemical properties and an amino acid composition similar to that of transferrin. Furthermore, the isolated tumor protein reacts with antiserum to authentic rat transferrin. Immunoperoxidase staining with rabbit anti-rat transferrin localizes transferrin within tumor acinar glands. Rocket immunoelectrophoresis indicates that transferrin constitutes 30 to 40% of tumor fluid protein, but accounts for only approx 9% of total serum protein. In normal rat prostate cytosols, the level of transferrin is at least 200x lower than in tumor cytosol. Nevertheless, dorsal and lateral prostate show variable peroxidase staining indicating the presence of immunoreactive transferrin within acinar glands of these normal tissues. While intense staining for transferrin was found in the interstitium of all regions of the normal prostate, transferrin was not detected within acinar glands of the coagulating gland, ventral prostate, or seminal vesicle. Immunocytochemical localization of albumin indicates a distribution similar to that of transferrin in normal and neoplastic rat prostates. However, unlike transferrin, the albumin content was lower in tumor fluid than in serum. It is suggested that the high level of transferrin in tumor fluid may be due to selective uptake of serum by the tumor. (Author abstract) (36 Refs)

73. ADAPTATION VERSUS SELECTION AS THE MECHANISM RESPONSIBLE FOR THE RELAPSE OF PROSTATIC CANCER TO ANDROGEN ABLATION THERAPY AS STUDIED IN THE DUNNING R-3327-H ADENOCARCINOMA.

Isaacs JT, Coffey DS
James Buchanan Brady Urological Inst. Johns Hopkins Hosp., 600 North Wolfe St., Baltimore, MD, 21205
Cancer Res; 41(12):5070-5075 1981

The Dunning R-3327-H rat prostatic adenocarcinoma is a well-differentiated, slow-growing, serially transplantable tumor of spontaneous origin. When intact male rats bearing such an exponentially growing H-tumor sc are castrated, tumor growth abruptly stops, demonstrating the initial androgen sensitivity of this tumor. Eventually, however, after an extended period, the tumor invariably relapses and once again appears to grow exponentially. At the time of relapse, the tumor is no longer androgen sensitive but has irreversibly progressed to a completely insensitive state. The mechanism responsible for this irreversible progression has been demonstrated by fluctuation analysis not to be due to environmentally induced adaptation of initially androgen-dependent H-tumor cells to a new androgen-independent state. Instead, the progression is due to the basic heterogeneity of the original H-tumor (ie, it is composed of a mixture of preexisting clones of both androgen-dependent and androgen-independent tumor cells). Following castration, only the preexisting clones of androgen-independent tumor cells are able to continue exponential growth; the androgen-dependent tumor cells stop proliferating and die. Thus, androgen ablation creates a host environment in which the androgen-independent tumor cells have a highly selective growth advantage over the androgen-dependent cells. Eventually, with time, this selective growth advantage results in a tumor which is completely composed of androgen-independent cells. It is the continuous proliferative growth of these androgen-independent tumor cells which leads to the relapse phenomenon. (Author abstract) (4 Refs)

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TUMORS OF THE KIDNEY (GENERAL)

1. ANGIOMYOLIPOMA: COMPUTED TOMOGRAPHIC-PATHOLOGIC CORRELATION OF 17 CASES.

Sherman JL, Hartman DS, Friedman AC, Madewell JE, Davis CJ, Goldman SM
(c/o Hartman) Dept. Radiologic Pathology, Armed Forces Inst. Pathology, Washington, DC, 20306
AJR; 137(6):1221-1226 1981

The angiomyolipoma is a benign renal tumor composed of fat, smooth muscle, and abnormal blood vessels. The tumor often extends into the perinephric space and often is complicat-

ed by intratumoral or perinephric hemorrhage. The CT findings of 17 cases of angiomyolipoma were correlated with t heir pathologic findings and are described. CT scans usually demonstrate a large fatty mass intermixed with areas of tissue density which may represent nonfatty parts of the tumor or areas of hemorrhage. CT is more sensitive than plain films at detecting the fat within the angiomyolipoma. CT is also useful in identifying perinephric extension and hemorrhage. In those angiomyolipomas composed primarily of smooth muscle or in which intratumoral hemorrhage has obscured the fatty part of the tumor, the CT appearance is indistinguishable from other solid renal tumors. (Author abstract) (12 Refs)

2. SIMULTANEOUS OCCURRENCE OF RENAL CELL ADENOCARCINOMA AND UROTHELIAL CARCINOMA OF THE RENAL PELVIS IN THE SAME KIDNEY DIAGNOSED BY PREOPERATIVE ANGIOGRAPHY.

Yokoyama I, Berman E, Rickert RR, Bastidas J
(c/o Berman) Dept. Pathology, Saint Barnabas Medical Center, Old Short Hills Road, Livingston, NJ, 07039
Cancer; 48(12):2762-2766 1981

An unusual case of dissimilar histologic neoplasms in the same kidney is presented. An 86-year-old man had renal cell carcinoma and urothelial carcinoma in the same kidney 8 years after therapy for urinary bladder carcinoma. These two different types of neoplasms were identified preoperatively by angiography. A peculiar hamartoma was also found in the same kidney. (Author abstract) (14 Refs)

3. LIGHT AND ELECTRON MICROSCOPIC FINDINGS IN PREOPERATIVELY IRRADIATED HUMAN RENAL CELL CARCINOMAS.

Fritzsche V, Katenkamp D, Unger G, Kob D
Pathologisches Institut, Friedrich-Schiller-Universitat, Ziegelmuhlenweg 1, DDR-6900 Jena, E. Germany
Zentralbl Allg Pathol; 125(4):354-363 1981

The study presents the light and electron microscopic changes in human renal cell carcinomas after preoperative irradiation. The findings of 6 irradiated renal cell carcinomas were compared with those of 2 non-irradiated tumors. A total dose of 30 Gy was applied, given in 20 doses. The light microscopic and histochemical studies did not show a significant difference between irradiated and non-irradiated tumors. Electron microscopy revealed differences between irradiated and non-irradiated renal cell carcinomas. The mostly centrally localized nucleus of the tumor cells showed a nuclear edema, moderately to highly activated nucleoli and an increased amount of different types of nuclear bodies. The cytoplasm demonstrated a changing content of organelles, which predominantly consisted of mitochondria. Here and there sub-plasmalemmally localized intracytoplasmatic microfilaments were found. The stroma cells corresponded to mesenchymal or fibroblast-like cells and sometimes showed bundles of microfilaments, which were arranged parallel to the long axis of the cell. They produced morphological similarities to myofibroblasts. The capillaries were clearly activated, the basement membrane appeared multilayered and sometimes included compartments of ground substance. The intracellular space contained finely granulated material, typical collagen fibers and cross-banded structures with similarities to 'long-spacing' collagen. From the findings can be inferred that irradiation in therapeutic doses has a direct effect on tumor cells and an effect on vessels, which, above all, produces inflammatory reactions. (Author abstract) (28 Refs) (In GER)

4. PHASE II TRIAL OF METHYL-G (METHYLGLYOXAL BIS-GUANYLHYDRAZONE) IN PATIENTS WITH METASTATIC RENAL CELL CARCINOMA.

Fuks JZ, Van Echo DA, Aisner J, Mitchell EP, Woolley PV, Wiernik PH
Baltimore Cancer Res. Program, NCI, 22 S. Greene St., Baltimore, MD, 21201
Cancer Clin Trials; 4(4):411-414 1981

Fourteen patients with metastatic renal cell carcinoma received methylglyoxal bis-guanylhydrazone (methyl-G) weekly at a starting dose of 600 mg/m2 (5 patients) and 500 mg/m2 (9 patients) intravenously. All 14 patients were evaluable for response and toxicity. No antitumor responses were observed. Six patients achieved stabilization of disease for 8 to 42 wk. Toxicity was nonhematologic and included nausea or vomiting (35%), fever with shaking chills (28%), diarrhea (21%), myalgia (63%), paresthesia (49%), and bilateral foot drop (7%). Methyl-G does not appear to have activity against renal cell carcinoma. (Author abstract) (14 Refs)

5. OSSEOUS METASTASES SECONDARY TO RENAL CELL CARCINOMA.

Swanson DA, Orovan WL, Johnson DE, Giacco G
Dept. Urology, Epidemiology, Univ. Texas M.D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Urology; 18(6):556-561 1981

We present the distribution of metastases and clinical course of 252 patients with osseous metastases secondary to renal cell carcinoma. Symptoms of the metastases were the presenting complaint in 48% of patients (including 37 with pathologic fractures); the axial skeleton was the most commonly involved site. Despite earlier reports that nephrectomy lengthened survival for patients with osseous metastases, our data showed this to be true only for patients with a solitary osseous metastasis. Patients with multiple osseous metastases had survival rates no better than patients with soft tissue or mixed lesions-whether or not nephrectomy was performed. (Author abstract) (16 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

6. TRANSITIONAL CELL CARCINOMA OF THE RENAL PELVIS: A 25-YEAR REVIEW.

Kawamura J, Tanaka Y, Higashi Y, Okada Y, Okabe T, Miyakawa M, Yoshida O
Dept. Urology, Kyoto Univ. Faculty Medicine, Kyoto, Japan
Hinyokika Kiyo; 27(8):905-916 1981

Fifty-five cases of transitional cell carcinoma of the renal pelvis were reviewed to determine factors predicting prognosis for the disease. The patients (42 men, 13 women; 37-86 yr old) had tumors (33 on left side, 22 on right) that were classified with the aid of Batata's system of staging ureteral tumors as Stage A (7 cases), B (11), C (21), and D (16). The 5-and 10-yr survival rates were 71.4% and 71.4%, respectively, for Stage A, 76.7% and 57.5% for Stage B, 31.9% and 19.7% for Stage C, 15.3% and 15.3% for Stage D, and 52.1% and 44.7% overall. The rates were more dependent upon the stage of the tumor than upon the grade. Non-visualizing iv pyelograms, RBC sedimentation rates greater than 50 mm/hr, initial presentation of the tumor when the patient was greater than 64 yr old, and presence of concurrent uroepithelial malignancies con-

stituted factors related to poor prognosis. Survival in 2-yr follow-up studies was higher for patients who underwent total nephroureterectomy than for those who underwent nephrectomy and extirpation of varying lengths of ureters. (35 Refs) (In JPN)

TUMORS OF THE URINARY BLADDER AND URETHRA

7. COMPUTER-BASED MEASUREMENTS OF BLADDER CANCER UROTHELIAL CELLS BY A HIGH-RESOLUTION MICROSCOPIC-CYTOPHOTOMETRIC SYSTEM.

Aeikens B, Liedtke CE, Haussman G, Knitsch G, Hartmann F
Urologische Klinik, Karl-Wiechert-Allee 9, Postfach 180, D-3000 Hannover, W. Germany
Urol Int; 36(5):298-306 1981

Examination of exfoliated urothelial cells present in the urine has been shown to be diagnostic by many researchers, but cytology is not yet widely accepted for routine diagnostic purposes. Cytology is highly efficient in the primary diagnosis of high grade transitional carcinoma (Grade II-III) but of limited value in the diagnosis of benign papilloma and low grade tumors. The sensitivity of cytology would be increased by improving the techniques of collecting cells out of the urine, using highly sensitive staining techniques and by objective cytologic measuring methods. Using a computer-based cytophotometric microscope, the cytologic analysis of 26 patients with bladder tumors are represented. There is evidence that a computerized measuring system is able to detect bladder tumors with a high accuracy. (Author abstract) (13 Refs) (In GER)

8. FLOW CYTOMETRY OF LOW STAGE BLADDER TUMORS: CORRELATION WITH CYTOLOGIC AND CYSTOSCOPIC DIAGNOSIS.

Devonec M, Darzynkiewicz Z, Kostyrka-Claps ML, Collste L, Whitmore WF, Melamed MR
(c/o Melamed), Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 49(1):109-118 1982

Flow cytometry examinations (FCM) were carried out on 110 bladder irrigation specimens from 84 urologic outpatients who had had prior conservative treatment for low stage bladder tumors. The specimens were easily obtained, and adequately cellular in all cases. Of 60 examinations on patients with no cystoscopic abnormalities, FCM and conventional cytology were both negative in 30 and both positive in 12 instances; there were 18 with positive FCM and negative cytology. Of 15 instances with cyst oscopically benign appearing papillary lesions, FCM and cytology were both negative in 3 and both positive in 3 cases; FCM was positive and cytology negative in 9. Of 35 instances with suspicious cystoscopic findings, FCM and cytology were both positive in 19 and both negative in 4; FCM was positive and cytology negative in 12. There were no examples of positive conventional cytology and negative FCM. These findings indicate that, after conservative treatment of low stage tumors, FCM of bladder irrigation specimens may be a more sensitive measure of cytologic abnormalities than is conventional cytology. Specimen collection is feasible as part of the routine urologic examination in an outpatient clinic. (Author abstract) (24 Refs)

9. THE IMPACT OF SCHISTOSOMIASIS ON THE PATHOLOGY OF BLADDER CARCINOMA.

El-Bolkainy MN, Mokhtar NM, Ghoneim MA, Hussein MH
2 Sherif St., Apartment 18, Cairo, Egypt
Cancer; 48(12):2643-2648 1981

In a series of 1,095 Egyptian patients with carcinoma of the bladder treated by radical cystectomy, 902 cases (82.4%) contained schistosome eggs in the specimens, and 193 (17.6%) were egg-negative. The different tumor parameters were compared in these subgroups to explore any differences that could be related to schistosomal infestation. In egg-positive cases, the tumors developed at a younger age (46.7 yr) than in egg-negative cases (53.2 yr). Squamous cell carcinoma, commonly of low grade, predominated in the egg-positive group. No difference was observed in the frequency of tumor stages or lymph node metastases between the two subgroups. The limited tendency to distant spread in schistosomal bladder cancer, despite its advanced local stage, is accounted for by the high frequency of low grade tumors rather than the limiting effect of local schistosomal tissue reactions. (Author abstract) (30 Refs)

10. PRE-OPERATIVE INTRA-ARTERIAL CHEMOTHERAPY FOR BLADDER CANCER.

Nakazono M, Iwata S
2-19-12 Sakura Setagaya, Tokyo 156, Japan
Urol Res; 9(6):289-295 1981

Efficacy of doxorubicin hydrochloride (DH) given by continuous ia infusion as pre-operative chemotherapy was studied in 13 patients with bladder cancer. Three cases are detailed. The patients were 61-78 yr old and had transitional cell carcinoma diagnosed by biopsy or surgical specimen. Teflon catheters (0.25 mm in diameter) had been inserted 5-13 days prior to operation depending on the general condition of the patient. The tips of the catheters were placed in the aorta between the origin of the inferior mesenteric artery and the aortic bifurcation. Total doses of DH were 80-250 mg. Tumors disappeared in 3/13 patients. In 6/13 patients some tumor regression was noted. One patient died from cardiac insufficiency. Myocardial toxicity of DH was the most likely cause. Other toxic effects were mild bladder irritation, alopecia, s tomatitis, and mild bone marrow depression. Preliminary results suggest that DH may be useful for pre-operative therapy. (16 Refs)

11. TOPICAL CYTOSTATICA THERAPY OF THE TRANSITIONAL CELL CARCINOMA OF THE BLADDER: SERUM RESORPTION STUDY AND CLINICAL RESULTS (MEETING ABSTRACT).

Fluchter H, Bichler KH, Harzmann R
Department of Urology, University of Tubingen, Tubingen, W. Germany
Third NCI-EORTC Symposium on New Drugs in Cancer Therapy, October 15-17, 1981, Brussels, Belgium European Organization for Research on Treatment of Cancer; A65 1981

We instilled mitomycin C (MMC) (20mg /MMC/40ml NaCl) into the bladder immediately after transurethral resection (TUR) in 19 patients. The MMC-serum concentration was measured 30 and 60 min after instillation. MMC concentration in perforation-, reflux- and normal collective did not differ significantly. But MMC serum concentration rises significantly in dependence of the resected area of the tumor. However, the toxic systemic threshold-value of 40 ug/ml was by far not reached. Since 03/1979, 40 patients with carcinoma of the bladder of stage Tis, TA T1 were treated according to the following schema: after bladder- TUR, we instilled MMC over 10

days with daily 20mg/MMC/40ml NaCl. This MMC dose was repeated after 6 wk. Every three mo refreshment of MMC (20mg MMC on 3 successive days) followed in connection with diagnostical urine-cytology, cytoscopy and biopsy of bladder. After an av of 21.4 mo, 7 patients out of 40 showed recurrence. Dividing our collective we had the following results: out of 17 patients with TA, T1 carcinoma having 3 recurrences and more in the last 24 mo before MMC therapy, only 29.4% (5 of 17 pts) had again a recurrence under MMC treatment. Out of 17 patients with tumor-first-manifestation TA, T1 only 2 had a recurrence. Six patients with carcinoma in situ are now more than 22 mo tumor-free. The efficiency of topical cytostatica therapy with MMC can ultimately only be proved by a controlled randomized study. However, the good results of our therapy, 12 of 17 patients who were in danger of recurrence, are now tumor free, seem to prove the value of this kind of treatment. In case of carcinoma in situ the topical MMC therapy gives a further possibility of therapy before deciding to perform a radical cystectomy. (no Refs)

12. INTRAVESICAL INSTILLATION OF ADRIAMYCIN IN THE AFTER TREATMENT OF TRANSURETHRALLY RESECTED CARCINOMA OF THE URINARY BLADDER.

Flamm J
Urologische Abteilung des Wilhelminenspitals, Montleartstrasse 37, A-1171 Wein, Austria
Urol Int; 36(5):292-297 1981

Thirty-two patients whose condition was diagnosed as carcinoma of the urinary bladder were subjected to weekly intravesical instillation treatment with adriamycin for a period of 6 weeks after transurethral resection of the tumors.The oncolytic and thus recurrence-preventive value of tr eatment was determined by endoscopic controls with exploratory excisions. All in all a persistent tumor was found in 31% of the cases and a recurrence-free course in 69% over a minimum observation period of 1 yr. These results are definitely better than those for comparable instillation treatments with surface-active or immunologically active substances. (Author abstract) (21 Refs) (In GER)

13. EVALUATION OF PREOPERATIVE BLADDER INSTILLATION AND PERIODIC PROPHYLACTIC BLADDER INSTILLATION OF ANTICANCER DRUGS IN THE PREVENTION OF RECURRENCE OF BLADDER TUMORS (MEETING ABSTRACT).

Mishina T, Miyakoda K, Araki H, Jujiwara T, Kobayashi T, Maegawa M, Nakao M
Department of Urology, Kyoto Prefectural University of Medicine, Kyoto, Japan
Third NCI-EORTC Symposium on New Drugs in Cancer Therapy, October 15-17, 1981, Brussells, Belgium European Organization for Research on Treatment of Cancer; :A11 1981

The effect of preoperative bladder instillation (POI) and periodic prophylactic bladder instillation (PPI) or anticancer drugs was evaluated in connection with the prevention of recurrent bladder tumors after surgery. A total of 172 patients with low stage tumors including patients submitted to transurethral resection (TURbt) and partial cystectomy from January 1964 to June 1979 were chosen for the study. They were divided into the following four groups: Group A (45 cases) was treated with PPI and POI, Group B (10 cases) with PPI but not POI, Group C (31 cases) with POI but not PPI, and Group D (86 cases) with neither PPI nor POI. POI was performed three x a wk for a total of 20 applications of anticancer drugs from two mo before surgery. The instillated drugs were 20mg of mitomycin-C, 5 or 7mg of carboquone, 40mg of adriamycin, 4,000mg of futraful, 10,000 U of neocarzinostatin, 100mg of ACNU (nimustine), or 1,000mg of 5-Fluorouracil (5-FU). PPI was performed twice a mo from after TURbt or partial cystectomy. The instillated drugs were 1,000mg of 5-FU or 1,600mg of futraful or a combination of 20mg of mitomycin-C and 1,000mg of 5-FU. The non-recurrence rate in these four groups was estimated by the actuarial method. The 3-yr non-recurrence rates in Groups A, B, C and D were 89.0%, 100%, 53.2% and 44.5% respectively. The 5-yr non-recurrence rates in Groups A, B, C and D were 89.0%, 100%, 36.8% and 35.0% respectively. It is presumed from our study that PPI was effective in preventing the recurrence of bladder tumors. In comparison, POI showed a very limited effect and only in the first three yr after surgery. (no Refs)

14. LOCAL BCG-IMMUNOTHERAPY IN BLADDER CANCER PATIENTS: IMMUNOLOGICAL FOLLOW-UP STUDIES.

Seyfarth M, Hudemann B, Nizze H, Riedel H, Werner H
Dept. Immunology, Wilhelm Pieck Univ. Rostock, Leninalle 70, 2500 Rostock, E. Germany
Arch Geschwulstforsch; 52(1):63-66 1982

Local BCG therapy by intralesional injection produced some response in bladder tumors in 10/10 patients treated. Complete regression occurred in five patients. Immunological follow-up demonstrated increased leukocyte reactivity to tumor antigen in vitro (in electrophoretic mobility tests) in six patients and in vivo (in skin reactivity tests) in four patients. (9 Refs)

15. EVIDENCE OF A MULTIPLICATIVE EFFECT BETWEEN CIGARETTE SMOKING AND OCCUPATIONAL EXPOSURES IN THE AETIOLOGY OF BLADDER CANCER.

Vineis P, Segnan N, Costa G, Terracini B
Servizio di Epidemiologia dei Tumori, Universita di Torino e Ospedale Maggiore, via Santena 7, 10126 Torino, Italy
Cancer Lett; 14(3):285-290 1981

Risk of bladder cancer resulting from the combined effects of exposure to tobacco smoke and occupational history was examined. Analysis of 225 case-control pairs (men, av age 59.0 yr for cases and 58.9 yr for controls) revealed an overall relative risk of developing bladder cancer of 4.8 for exposure to tobacco smoke and 1.7 for particular occupations (chemical industry, dye production, tire factories, petrol refining, gas plants, and typographers). The relative risk for smokers regardless of number of cigarettes smoked was 4.4 in non-occupationally exposed men, compared with 6.8 in occupationaly exposed men. The findings suggest a multiplicative effect between occupational exposure and cigarette smoke in human bladder carcinogenesis. (27 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

16. REPRODUCIBLE GRADINGS OF PROSTATIC CARCINOMA BASED ON CYTOLOGICAL CRITERIA OF MALIGNANCY.

Bocking A
Pathologisches Institut der Universitat Freiburg, Albertstrasse 19, D-7800 Freiburg i. Br., W. Germany
Aktuel Urol; 12(6):278-280,281-282 1981

A new system for cytological grading of malignancy of prostatic carcinoma with an interspecific reproducibility of 86% is presented. Nuclear area (NA), variability of NA, nucleolar size (NLS), variability of NLS, cell dissociation, and regularity of nuclear arrangement are each rated on a scale of 1-3. The sum of these ratings is then classified as one of three grades of malignancy. Since these grades correlate with criteria of DNA distribution in tumor-cell nuclei, the grading system should have prognostic value. (19 Refs) (In GER)

17. FLOW CYTOMETRIC DETERMINATION OF DNA DISTRIBUTION PATTERN IN MALIGNANT AND BENIGN TUMORS OF THE PROSTATE.

Lammel A, Roters M, Kastendieck H, Becker H
II. Medizinische Klinik, Universitats-Krankenhaus Hamburg-Eppendorf, Martinistrasse 52, D-200 Hamburg 20, W. Germany
Urologe [A]; 20(6):400-404 1981

Specimens of prostate tissue from 56 patients with clinically suspected prostate carcinoma were subjected to flow cytometry to determine the DNA distribution pattern and to histological exa mination. All specimens with a G1 fraction higher than 95% were interpreted as benign, and those with a G1 fraction equalling or lower than 95% as malignant flow cytometrically. The histological examinations revealed malignant neoplasm in 32/56 patients. The flow cytometric findings suggested malignancy in 24/32 patients, and false negative in 8/32. The histological examinations showed no evidence of malignancy in 24/56 cases: the flow cytometric findings were correct in 23/24 cases, and false positive in 1/24. The mean level of the G1 fraction in the histologically benign specimens was 97.8% with a standard deviation of 1.3%. The relevancy of the flow cytometric findings was found to be strongly dependent on the ratio of tumor tissue to normal tissue in the test specimen. The DNA distribution pattern of highly differentiated carcinoma does not seem to be always different from that of normal tissue, and thus such specimens may escape flow cytometric detection of malignancy. (14 Refs) (In GER)

18. EFFECT OF PEPLOMYCIN (BLEOMYCIN DERIVATIVE) ON PROSTATIC CANCER.

Yoshimoto J, Matsumura Y, Asahi T, Ozaki Y, Suyama B, Kaneshige T, Tsushima T, Mizuno A, Ohmori H, Ike N, Josen T, Kamei Y, Takamoto H, Tanahashi T
Dept. Urology, Okayama Univ., Medical Sch., Shikata-cho, Okayama 700, Japan
Gan To Kagaku Ryoho; 8(7):1109-1117 1981

Peplomycin, a derivative of bleomycin, was administered to 26 patients with histologically proven adenocarcinoma of the prostate. There were 9 primary cases and 17 patients in relapse. According to the response criteria of Shida et al, all 26 cases were evaluable. Of the nine patients including seven with primary disease, who were treated by a single administration of peplomycin with an av total dose of 110 mg, three had good response for a total response of 33.3%. Of the six stage D patients in relapse who were treated by a single administration of peplomycin with Linac irradiation, four had a good response for a total response of 66 7%. A combination chemotherapy trial with vincristine, ifosfamide and peplomycin (VIP combination) was performed on 11 patients with metastasis, including 9 in relapse and 2 with primary disease whose symptoms were bone pain and decrease of performance status. The treatment schedule was as follows: vincristine 1 mg iv injection (day 1-2); ifosfamide 30-50 mg/kg body wt infused in 200 ml of physiological saline (day 2-4); peplomycin 5 mg im injection (day 1-6). This was repeated every 3 wk. Of the 11 evaluable patients, one had an excellent response and 7 had a good response for a total response of 77.2%. Ten patients (90.0%) had a significant decrease or disappearance of bone pain. The toxicity of peplomycin and the VIP combination was mild to moderate. Of the 26 patients, 6 (23.1%) showed pulmonary fibrosis due to peplomycin. (13 Refs) (In JPN)

19. DOXORUBICIN, MITOMYCIN, AND 5-FU (DMF) IN THE TREATMENT OF HORMONE-RESISTANT STAGE D PROSTATE CANCER: A PRELIMINARY REPORT.

Logothetis CJ, Von Eschenbach AC, Samuels ML, Trindade A, Johnson DE
Dept. Medicine, Univ. Texas System Cancer Center, M.D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Cancer Treat Rep; 66(1):57-63 1982

Fifteen patients with advanced Stage D hormone-resistant prostate cancer were treated with the combination of doxorubicin, mitomycin, and 5-fluorouracil (5-FU). Nine patients (60%) had objective responses, with a mean duration of 27.9 wk. No responding patient has relapsed. Although three patients developed a culture-negative leukopenic fever, no deaths from chemotherapy occurred. Preliminary results with doxorubicin, mitomycin, and 5-FU indicate that this is a very effective chemotherapy regimen, resulting in a high objective response rate in metastatic prostate cancer. (Author abstract) (12 Refs)

20. ESTRAMUSTINE PHOSPHATE WITH MULTIPLE CYTOTOXIC AGENTS IN TREATMENT OF ADVANCED PROSTATIC CANCER.

Beckley S, Wajsman Z, Maeso E, Pontes E, Murphy G
Dept. Urologic Oncology, Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
Urology; 18(6):592-595 1981

Twenty-five patients with histologically proved adenocarcinoma of the prostate were divided into two groups and submitted to combination therapy with estramustine (Estracty), cyclophosphamide (Cytoxan), 5-fluorouracil, and Cisplatin. Group A consisted of 10 patients newly diagnosed Stage D disease with no prior treatment. Group B consisted of 15 Stage D patients who had become hormonally unresponsive. Group A patients demonstrated an initial 100% response rate including 70% partial objective responses and 30% stabilizations. Group B patients had a 46% response with 39% complete and partial responses and 6% as stabilized. Toxicity was tolerable judged by the NPCP criteria. Both groups of patients are still under study for up to 2 yr to determine if this therapy is superior to other traditional therapies. (Author abstract) (13 Refs)

21. CARCINOMA OF THE PROSTATE: THE TREATMENT OF BONE METASTASES BY RADIOPHOSPHORUS.

Glaser MG, Howard N, Waterfall N
Dept. Radiotherapy and Surgery, Charing Cross Hosp., London, England
Clin Radiol; 32(6):695-697 1981

Osseous deposits secondary to advanced carcinoma of the prostate are a common feature of the disease. These deposits are most often seen in the lumbar spine and pelvis and cause severe and intractable pain, often requiring large quantities of strong analgesia for alleviation of pain. Relief of pain can be achieved by external irradiation of these deposits, but this relief may not be permanent and the disease may be so widespread that it is impracticable to treat all the deposits by irradiation. De posits from carcinoma of the prostate are usually multiple and all may cause pain at the same time. A method of delivering the radiation to all the deposits at the same time has been sought. Previous studies have shown that radioactive phosphorus (P32) can be used to obtain this localization of radioactivity at sites of osseous activity. In this study 24 patients with bone metastases from carcinoma of the prostate were treated with radiophosphorus and methyl testosterone, or radiophosphorus with parathormone and calcium. An overall response rate of 58% shows this to be an effective palliative treatment. The results suggest there is a greater response when P32 is used in conjunction with parathormone and calcium, than with methyl testosterone. (Author abstract) (5 Refs)

22. PAPILLARY ADENOCARCINOMA OF THE PROSTATIC URETHRA WITH CLEAR-CELL APPEARANCE.

Cantrell BB, Leifer G, DeKlerk DP, Eggleston JC
Dept. Pathology, St. Vincent's Medical Center, 1800 Barrs St., Jacksonville, FL, 32204
Cancer; 48(12):2661-2667 1981

The second reported papillary prostatic urethral carcinoma displaying an unusual clear-cell or so-called mesonephroid histologic appearance is described. Neoplasms arising from the utricular region have generated considerable discussion of their histogenesis and hormone-responsiveness. A review of the literature as well as consideration of this case suggests that the lesion's clear-cell appearance should not be used as evidence for mullerian derivation from the utricle. The authors favor a periurethral gland origin for this particular tumor. (Author abstract) (17 Refs)

23. PROSTATIC MUCINOUS ADENOCARCINOMA. A COWPER GLAND CARCINOMA MIMICKER.

Proia AD, McCarty KS, Woodard BH
(c/o Woodard) Dept. Pathology, Duke Univ Medical Center, Box 3712, Durham, NC, 27710
Am J Surg Pathol; 5(7):701-706 1981

A 75-yr-old man was seen with urinary obstruction. Transurethral biopsy of the prostate indicated Cowper gland-like carcinoma. The serum acid phosphatase (AP) levels were within the normal range. The radical cystoprostatectomy specimen contained a cystic mucoid tumor mass. Large mucin collection, sparing involvement of the prostatic ducts, absence of the extraprostatic disease, and histochemical demonstration of AP in tumor tissue despite the absence of elevated serum AP indicated mucinous adenocarcinoma. (16 Refs)

24. TUMOR BLOOD GROUP ANTIGENS IN PROSTATIC CARCINOMA (MEETING ABSTRACT).

Pramberg JC, Karnik S, Walker PD, DeKernion JB
Tulane Medical School, New Orleans, LA, 70112
Am J Clin Pathol; 76(3):354 1981

The absence of blood group antigens (ABH) on low grade transitional cell carcinoma of the bladder is associated with poor prognosis. This stimulated us to determine the ABH status of prostatic carcinomas of various stages and grades from 20 patients utilizing the specific red cell adher ence (SRCA) technique. The ABH status was also tested on control sections of normal prostate and on sections of benign prostatic hyperplasia (BPH). The SRCA was strongly positive in areas of prostatic hyperplasia while the carcinomatous areas were uniformly negative no matter what the stage or grade. The areas of normal prostate showed only a patchy positivity. These preliminary results suggest that SRCA may be very helpful in differentiating atypical epithelial cell hyperplasia from well differentiated adenocarcinoma in prostate. (no Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

25. COMPARISON OF LYMPHOGRAPHIC AND COMPUTED TOMOGRAPHIC STUDIES OF THE RETROPERITONEUM IN CASES OF TESTICULAR TUMORS.

Schmidt F, Schulz HG, Pirlich W, Greul G
Radiologische Klink und Poliklinik, Karl-Marx-Universitat, Liebigstrasse 20a, DDR-7010 Leipzig, E. Germany
Radiol Diagn (Berl); 22(4):500-504 1981

Results of lymphographic and computed tomographic studies in 41 patients with testicular tumors were compared. Cases included 13 seminomas, 19 teratocarcinomas, 3 embryonic carcinomas, 3 chorioepitheliomas, 2 benign tumors, and 1 tuberculosis. A total of 43 lymphographies (LG) and 46 computed tomograms (CT) were performed. LG and CT findings agreed in 35 cases, including 11 positive and 24 negative cases. In 18 cases in which histological examination was performed, CT had a sensitivity of 86% and a specificity of 92%. In the same cases LG had a sensitivity of 72% and a specificity of 92%. Combination of both methods produced a sensitivity of 100% and a specificity of 92%. LG had the advantage of allowing differential diagnosis of pathologic changes in normal-sized lymph nodes. CT had the advantage of allowing demonstration of areas not demonstrable with LG and of extension of pathologic lymph nodes. The value of CT and LG in combination was conformed. (25 Refs) (In GER)

26. CHEMOTHERAPY OF DISSEMINATED SEMINOMA WITH COMBINATION OF CIS-DIAMMINEDICHLOROPLATINUM (II) AND CYCLOPHOSPHAMIDE.

Vugrin D, Whitmore WF, Batata M
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer Clin Trials; 4(4):423-427 1981

Nine patients with metastatic seminoma, who had received no prior chemotherapy were induced with a combination containing cis-platinum 120 mg/m2 iv and cyclophosphamide 600

mg/m2 iv for three to six treatments at 4-6 wk intervals, and then received maintenance with cyclophosphamide 600 mg/m2 iv every 3-4 wk to complete 2 yr of chemotherapy. Eight patients entered complete remission: five with chemotherapy alone and three with chemotherapy and radiation or resection of residual disease. Seven patients remain in CR with a minimum follow up of 17 mo. Chemotherapy is effective in treatment of metastatic seminoma. (Author abstract) (24 Refs)

27. LYMPHOMAS OF THE TESTIS - RESULTS OF TREATMENT 1960-77.

Read G
Dept. Radiotherapy, Christie Hosp., Holt Radium Inst., Manchester, England
Clin Radiol; 32(6):687-692 1981

Fifty-one patients with malignant lymphoma presenting in the testis are reported. The tumors were all diffuse non-Hodgkin's lymphoma. Eight patients had bilateral involvement. Fifty-three per cent of patients had evidence of spread beyond the testis at presentation and 75% at some time. The actuarial survival for all patients was 20% and for patients with disease apparently confined to the testis 40%. There was a survival advantage for patients with right sided tumors and lymphocytic histology. Chemotherapy using the VAP regime followed by radiotherapy to sites of bulky disease is recommended for patients with evidence of spread at presentation. For patients with disease apparently confined to the testis it is suggested that consideration should be given to adjuvant chemotherapy following radiotherapy to the abdominal nodes and scrotum. (Author abstract) (11 Refs)

28. THE MANAGEMENT OF BRAIN METASTASES IN GERM CELL TUMORS.

Logothetis CJ, Samuels ML, Trindade A
Dept. Medicine, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Rm. W-725, 6723 Bertner Ave., Houston, TX, 77030
Cancer; 49(1):12-18 1982

Twelve patients with brain metastases from germ cell tumors were treated with combined whole brain irradiation and systemic chemotherapy. Two prognostic categories were identified. Patients with single brain metastases had a mean survival of 29.9 mo, while patients with multiple brain lesions had a mean survival of 13.7 mo. Four of the six patients with single brain lesions remain alive at 13, 14, 35 and 41 mo following the clinical diagnosis of brain metastasis. The improved survival among patients with single lesions can be attributed to the sensitivity to chemotherapy of their tumors. Meningeal carcinomatosis, a previously unreported complication of metastatic germ cell tumor, developed in two patients who were initially treated for single brain metastasis. Both patients developed a clinical picture suggesting meningeal invasion by tumor and both had cytologic evidence in the cerebrospinal fluid of malignant cells. (Author abstract) (14 Refs)

29. MALIGNANT MESOTHELIOMA OF THE TUNICA VAGINALIS TESTIS: REPORT OF FIRST CASE WITH PREOPERATIVE DIAGNOSIS.

Japko L, Horta AA, Schreiber K, Mitsudo S, Karwa GL, Singh G, Koss LG
(c/o Koss) Dept. Pathology, Montefiore Hosp. Medical Center, 111 East 210th Street, Bronx, NY, 10467
Cancer; 49(1):119-127 1982

The cytologic, histologic and ultrastructural features of a malignant carcinomatous mesothelioma of the tunica vaginalis testis in a 30-yr old patient are described. This is the first such case with preoperative diagnosis by cytologic examination of hydrocele fluid and the second with documented history of exposure to asbestos. The identity of the tumor was confirmed by a positive immunoperoxidase reaction directed against mesothelial cells. A review of the previously described 10 cases is presented. (Author abstract) (43 Refs)

30. NEOPLASIA ASSOCIATED WITH ANOMALOUS SEXUAL DEVELOPMENT AND ABNORMAL SEX CHROMOSOMES.

Scully RE
James Homer Wright Pathology Lab., Massachusetts General Hosp., Boston, MA, 02114
Pediatr Adolesc Endocrinol; 8:203-217 1981

Risk for development of malignant and benign genital neoplasms in children with intersexual state or abnormal sex chromosomes is reviewed. The children with cryptorchidism were shown to be 10-15x as predisposed to the development of malignant germ cells in descended testes. Bilateral testicular tumors were found to develop in small percent of male with adrenogenital syndrome. Testicular feminization is associated with such proliferative disorders as germ cell tumors, hamartomas, and adenomas. Gonadal dysgenesis is associated with gonadoblastomas, which are frequently complicated by seminomas or dysgerminomas. Wilms' tumors were reported in the patients with mixed gonadal dysgenesis. The patients with Klinefelter's syndrome were found to have germ cell tumors located in the mediastinum, retroperitoneum, and pineal regions. (46 Refs)

TUMORS OF THE PENIS AND SCROTUM

31. CARCINOMA OF THE PENIS: CLINICAL STUDY OF 26 CASES.

Otoshi K, Minami Y, Matsuya F, Matsuzaki Y, Yamashita S, Hayashi M, Yura M, Kusaba Y, Kanetaka H, Matsuo E, Shindo K, Saito Y
Dept. Urology, Nagasaki Univ. Sch. Medicine, Nagasaki, Japan
Hinyokika Kiyo; 27(8):917-921 1981

Penile carcinoma was discovered in 26 patients (38-80 yr old), 25 of whom had phimosis. According to Jackson's staging system, the tumors were Stage I in 12 patients, Stage II in 7, Stage III in 7, and Stage IV in none. Pathohistologically, 22 cases were of squamous cell carcinoma, 1 of Buschke-Loewenstein tumor, and 3 of unknown tumors. The patients with Stage I tumors were given various therapies: bleomycin (BLM: 5), penectomy (4), radiotherapy with 60Co, teleCo, or linac (7), and lymph node dissection (2). One Stage I patient died from pulmonary embolism caused by pretreatment lymphangiography. Five-yr relative survival rates were 85.7% for Stage I patients, 80% for Stage II, 33.3% for Stage III, and 77.3% overall. The rate for 11 patients treated with BLM was 87.5%, while that for 15 patients not so treated was 57.1%. Penile preservation was possible in Stage I patients who were treated with both BLM and radiotherapy. (10 Refs) (In JPN)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

32. URINARY POLYAMINE AND UROLOGIC CANCER.

Akasaka Y, Machida T, Tanaka A
Dept. Urology, Jikei Univ. Sch. Medicine, Minato-ku, Tokyo 105, Japan
Rinsho Hinyokika; 35(7):657-663 1981

Polyamine (putrescine, spermidine, and spermine) levels in 24 hr urine samples from patients with urogenital tract malignancies were evaluated by thin layer chromatography. Normal values were determined from 30 normal volunteers. Forty-five patients with urogenital tract malignancies (7 renal cell carcinoma, 23 urothelial cancer, 10 prostatic carcinoma, and 5 other cancer) were examined. The normal range for putrescine was 0.61-3.1 mg (mean +- standard error, 1.44 +-0.17 mg), for spermine 0.16-2.02 mg (1.01 +-0.16 mg), and for spermine 0.19-1.0 mg (0.43 +-0.04 mg). The range for putrescine in 45 cancerous patients was 0.80-57.9 mg (2.87 +-0.41 mg), for spermidine 0.31-14.5 mg (1.27 +-0.14 mg), and for spermine 0.17-2.54 mg (0.95 +-0.20 mg). The differences between normal volunteers and patients were significant. Urinary polyamines of patients with urogenital tract cancer after surgery or cytotoxic chemotherapy were studied. The pretreatment putrescine level was 3.59 +-0.71 mg, spermidine 1.69 +-0.22 mg, and spermine 1.36 +-0.20 mg. The posttreatment putrescine level was 1.68 +-0.27 mg, spermidine 1.20 +-0.20 mg, and for spermine 0.89 +-0.24 mg. The differences between pre- and posttreatment levels were significant. Urine specimens were collected from 15 patients with localized cancer and 15 with advanced cancer. The putrescine level for the localized cancer patients was 1.28 +-0.20 mg, spermidine 0.27 +-0.11 mg, and spermine 0.74 +-0.16 mg. The putrescine level for the advanced cancer patients was 6.40 +-1.16 mg, spermidine 2.37 +-0.37 mg, and spermine 1.33 +-0.02 mg. The difference between the polyamine levels of the two groups of patients was significant. The determination of putrescine and spermine excretion levels seems to serve as (1) a tool to monitor cancer and (2) a useful measure for detection of cancer. (18 Refs) (In JPN)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

33. DRUG SENSITIVITY TESTING OF PRIMARY CANCERS WITH THE HUMAN TUMOR STEM CELL COLONY ASSAY (HTSCA) (MEETING ABSTRACT).

Kovach JS, Lieber MM
Mayo, Clinic, Rochester, MN, 55901
Third NCI-EORTC Symposium on New Drugs in Cancer Therapy, October 15-17, 1981, Brussels, Belgium European Organization for Research on Treatment of Cancer; :A29 1981

We are evaluating the HTSCA (Hamburger and Salmon) for the detection of antitumor activity of new drugs (screening) and for individualization of human cancer therapy. Over the past 9 mo we have cultured cells from 997 tumors including 147 colonic, 129 gynecologic (including 75 ovarian), 115 mammary, 102 bronchogenic and 91 renal carcinomas. Three-hundred sixty tumors were dispersed into single cells mechanically and 284 tumors, enzymatically (collagenase and DNAse). Twenty-nine percent of mechanically disru pted and 14% of enzymatically disrupted specimens had no viable (trypan blue excluding) cells. Colony formation considering all tumors plated ranged from 15% when only large colonies containing approx 100 cells were counted visually to 50% when all colonies 60 u and greater in diameter were counted electronically by a computerized pattern recognition system. Approx 30% of control plates from all tumors had the same number or fewer colonies present day 7 as on day 1. The relationships of changes in numbers of colonies in control plates to the number of colonies in test plates (drug exposure) and to the method of disruption are under study and will be discussed. Patterns of drug sensitivity of primary renal, colon, and ovarian carcinoma are concordant with the known drug sensitivity of these tumors clinically. Prospective controlled trials of therapy selected on the basis of the in vitro drug sensitivity for patients with these tumor types, now in early stages of accrual, are needed to document potential utility of the HTSCA. (1 Ref)

34. CAPILLARY EMBOLIZATION WITH ETHIBLOC: NEW EMBOLIZATION CONCEPT TESTED IN DOG KIDNEYS.

Kauffmann GW, Rassweiler J, Richter G, Hauenstein KH, Rohrbach R, Friedburg H
Abteilung Rontgendiagnostik, Zentrum Radiologie, 55 Hugstetterstrasse, D 7800 Freiburg/Breisgau, W. Germany
AJR; 137(6):1163-1168 1981

Collateral vessels in tumors and arteriovenous malformations limit the effectiveness of therapeutic embolization. Capillary propagation of embolization media represents a possible solution of the problem. Embolization with Ethibloc (Hamburg-Norderstedt), a vegetable protein dissolved in alcohol, was performed in 15 renal arteries of dogs. Three embolized kidneys were completely resorbed, and four kidneys showed complete necrosis microscopically. Ethibloc in combination with 40% glucose guarantees homogenous embolization of the entire arterial bed including the capillaries. No complications were observed in other organs. (Author abstract) (37 Refs)

35. HYPERTHERMIC THERAPY OF BLADDER CANCER. I. EFFECT OF HYPERTHERMIA ON CULTURED BLADDER CANCER CELL LINES.

Kubota Y
Dept. Urology, Yokohama City Univ., Yokohama, Japan
Nippon Hinyokika Gakkai Zasshi; 72(6):730-734 1981

Proliferation inhibiting and cytotoxic effects of hyperthermia and cytotoxic effects of hyperthermia combined with bleomycin (BLM) were studied with two human bladder cancer cell lines, T-24 and MGH-U1, and with HeLa-S3 cells (uterine cervical cancer). One day after the proliferation o the cultured cell lines was even, cells were exposed for 1 hr to 43 C hyperthermia. Compared to untreated control cells, the HeLa, T-24, and MGH-UI cells showed decreased proliferation, and the proliferation remained inhibited for 2 days thereafter. In HeLa, T-24, and MGH-UI cells that were in stationary phase, decreased proliferat ion was observed following 1-hr exposure to 43 C hyperthermia. When the HeLa and MGH-UI cells were treated with BLM at 43 C, a 50-100x stronger cytotoxic effect was observed than when BLM was administered alone at 37 C. Hyperthermia and/or a combination of hyperthermia and BLM showed cytotoxic effects against these three strains of cancer cells, and clinical applications of this combination were thought to be promising. (23 Refs) (In JPN)

36. HYPERTHERMIC THERAPY OF BLADDER CANCER. II. KINETICS OF CELL KILLING BY HYPERTHERMIA PLUS BLEOMYCIN.

Kubota Y
Dept. Urology, Yokohama City Univ. Sch. Medicine, Yokohama, Japan
Nippon Hinyokika Gakkai Zasshi; 72(6):735-741 1981

Kinetics of cell killing with hyperthermia and mechanism of synergistic cytotoxicity due to a combination of hyperthermia and bleomycin (BLM) were studied in HeLa cells. The HeLa cells were cultured in Eagle minimum essential medium with 10% fetal calf serum, penicillin, and streptomycin. Compared to control cells, the hyperthermia-treated (43 C for 45 min) cell colonies showed almost no growth up to day 2 after hyperthermia; thereafter, to day 5, the treated cells were divided into two groups - those that had inhibited mitosis and those that showed recovery of mitosis. Compared to sedimentation profiles, which were determined with the aid of alkaline sucrose gradient analysis, of cell-DNA from untreated (37 C for 1 hr) HeLa cells, those of HeLa cells treated with 43 C or 45 C hyperthermia for 1 hr had lower main peaks (indicating lower percentage recovered radioactivity), but the position of the peaks were the same as in the controls. Combination of hyperthermia and BLM inhibited the recovery of growth capacity in the group of cells that showed recovery of mitosis when treated with hyperthermia alone. Combination of hyperthermia and BLM also produced more DNA single-strand breaks than BLM treatment alone and inhibited the repair of DNA single-strand breaks due to BLM. No synergistic inhibition of the HeLa cells' synthesis of DNA, RNA, or protein was observed with the combination of hyperthermia and BLM. (23 Refs) (In JPN)

37. ROLE OF ANTIBODY IN CYTOTOXICITY BY LYMPHOCYTES ARMED AGAINST 253J BLADDER CANCER LINE.

Catalona WJ, Ratliff TL, McCool RE, Heston WD
Surgery Res., Jewish Hosp. St. Louis, 216 South Kingshighway, St. Louis, MO, 63110
Int Arch Allergy Appl Immunol; 66(3):259-266 1981

The role of antibody-dependent cell-mediated cytotoxicity (ADCC) in cytotoxicity mediated by antibody-armed effector cells was examined. Cytotoxicity mediated by unsensitized human peripheral blood mononuclear cells (MNC) directed against the human bladder cancer cell line, 253J, was significantly enhanced when MNC were preincubated with a rabbit anti-253J serum and then washed free of unbound antibody. Non-adherent, Fc receptor positive MNC were the effector cells and the arming antibody was IgG. Supernatants of 24-hr cultures and armed MNC exhibited antibody activity in ADCC assays, suggesting the ADCC was in part responsible for the arming phenomenon. (Author abstract) (23 Refs)

* U. S. GOVERNMENT PRINTING OFFICE : 1982—361-847/117

38. HUMAN TUMOR CLONOGENIC ASSAY: CLINICAL CORRELATIONS BETWEEN IN VITRO AND IN VIVO OBSERVATIONS (MEETING ABSTRACT).

Salmon S
University of Arizona Cancer Center, Tucson, AZ, 85724
Third NCI-EORTC Symposium on New Drugs in Cancer Therapy, October 15-17, 1981, Brussels, Belgium European Organization for Research on Treatment of Cancer; :A26 1981

Evidence that cells being tested in vitro have relevance to tumor stem cells in vivo can be gathered using both in vitro studies of the self-renewal capacity of tumor-colony forming units (TCFU) and by clinical correlation with relapse free or overall survival in vivo. Currently, we are conducting a detailed analysis of our experience with in vitro chemosensitivity in a variety of tumor types in 1500 tests with standard cytotoxic drugs (eg, platinum, adriamycin, fluorouracil (FU), methotrexate (MTX), vinblastine etc). In general, most of the standard agents had significant activity against TCFU in 5%-20% of specimens tested, with marked variation among tumor types. Additionally, we have analyzed in vitro cross-resistance patterns with the intent of developing new combinations of agents which might prove useful in the clinic. One major emphasis in our studies has been a series of prospective clinical trials evaluating the assay in relation to clinical response in various specific tumor types to standard and new agents, with major emphasis placed on ovarian cancer, melanoma, myeloma, lung cancer, bladder cancer. Overall, we have observed a 65%-70% correlation between in vitro chemosensitivity and objective response in vivo, and more than 95% correlation between in vitro resistance and failure to respond in vivo. Early evidence suggests that in both myeloma and ovarian cancer, survival is better in patients who are sensitive in vitro than those who are resistant. (1 Ref)

39. MONOCLONAL ANTIBODIES TO HUMAN PROSTATE AND BLADDER TUMOR ASSOCIATED ANTIGENS (MEETING ABSTRACT).

Starling JJ, Wright GL
Eastern Virginia Medical School, Norfolk, VA, 23501
Hybridomas and Cellular Immortality (Second Houston Symposium), November 5-6, 1981, Houston, Texas. University of Texas Medical School at Houston 55 pp., 1981.

Monoclonal antibodies to human prostate adenocarcinoma membrane antigens were produced by fusion of spleen cells from Balb/C mice immunized against the prostate cancer cells line DU145, and the P3X63/Ag8 mouse myeloma line. The hybrids were screened for antibody production using glutaraldehyde-fixed or live cells in an in vitro binding radioimmunoassay (RIA). Antibody binding specificity was als o checked by quantitative adsorption studies. A hybridoma clone (83.21) was isolated that secreted antibodies which preferentially bound to prostate and bladder cancer cells but did not bind to a variety of other normal and malignant human cell lines. This antibody also reacted with a cytomegalovirus-transformed human embryonic lung cell line but not to normal human embryonic lung cells. Conventional and competitive binding studies indicate that the 83.21 monoclonal antibody does not bind to alpha-fetoprotein, carcinoembryonic antigen, prostatic acid phosphatase, human WBC antigen (HLA), beta2 microglobulin, fibronectin, prostate specific antigen or DR antigens. Preliminary immunoprecipitation data with 125I-labeled, detergent soluble, DU145 membrane proteins and the 83.21 monoclonal antibody suggest that this antibody binds two proteins with mol wt of 210 and 97 kilodaltons. (no Refs)

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TUMORS OF THE KIDNEY (GENERAL)

1. PAPILLARY ADENOCARCINOMA OF KIDNEY. II. RADIOGRAPHIC AND BIOLOGIC CHARACTERISTICS.

Bard RH, Lord B, Fromowitz F
111 East 210 St., Bronx, NY, 10467
Urology; 19(1):16-20 1982

Papillary adenocarcinoma is an uncommon variety of renal adenocarcinoma occurring in 5 to 10% of all cases. These tumors have a unique radiographic appearance consisting of reduced or absent vascularity. In addition, they are seemingly less aggressive, slow-growing, and more amenable to less radical surgery. (Author abstract) (11 Refs)

2. THE IMMEDIATE AND LONGTERM RESULTS OF SURGICAL TREATMENT OF 222 CASES OF RENAL ADENOCARCINOMA.

Richard F, Carvalho R, Le Gall E, Chatelain C
Clinique Urologique, Hopital de la Pitie, 83, boulevard de l'Hopital, 75634 Paris, France
Ann Urol (Paris); 15(6):361-365 1981

Surgical treatment of 222 cases of adenocarcinoma of the kidney consisted of wide nephrectomy in 204 patients, partial nephrectomy in 4 patients and exploratory laparotomy in 14. Radiotherapy, chemotherapy, and hormonotherapy were used in cases of extreme local invasion or of metastasis, and were not taken into account in the evaluation of the results. Postsurgical deaths occurred in 10 patients; complications, in 49. For 168 patients who were followed after surgery, the 5-yr survival rates were 71% for Stage I, 77% for Stage II, 48% for Stage III, and 23% for Stage IV. The superior survival rate for the Stage II patients is considered to be a paradoxical result without rational explanation. The survival rates obtained in this study were very similar to those reported in the literature. (46 Refs) (In FRE)

3. CONSERVATIVE SURGERY OF RENAL CARCINOMA: THE EIRSS EXPERIENCE.

Marberger M, Pugh RC, Auvert J, Bertermann H, Costantini A, Gammelgaard PA, Petterson S, Wickham JE
Dept. Urology, Krankenanstalt Rudolfstiftung, Juchgasse 25, A-1030 Vienna, Austria
Br J Urol; 53(6):528-532 1981

Seventy-two patients with renal carcinoma (RC) in a solitary kidney or bilateral synchronous tumors underwent parenchyma-sparing excision of their neoplasms. This was performed in situ in 51 and extracorporeally in 21 kidneys, with a complication rate respectively of 17 and 43%. The 5-yr survival rates were 78% for unilateral disease, 48% for bilateral synchronous and 38% for bilateral asynchronous disease. Survival correlated with P category, grade and diameter of the tumor. Vascular invasion and spindle cells indicated a poor prognosis; the position of the tumor, oncocytic elements, calcification, lymphocytic infiltration or the predominance of clear cell or granular cells did not influence survival. (Author abstract) (14 Refs)

4. THE LATE RESULTS OF CONSERVATIVE SURGERY FOR UPPER TRACT UROTHELIAL CARCINOMAS.

Wallace DM, Wallace DM, Whitfield HN, Hendry WF, Wickham JE
Dept. Urology, St. Bartholomew's Hosp., West Smithfield, London WC1A 7BE, England
Br J Urol; 53(6):537-541 1981

In a selected series of 14 patients, upper tract urothelial tumors were excised with preservation of the ipsilateral kidney. The 5-yr survival rate was 83%. The ipsilateral local recurrence rate was 5/14 (36%), but in 4 cases salvage surgery was effective and in 2 cases a functioning kidney was still preserved. The results of conservative surgery and its indications are discussed. (Author abstract) (21 Refs)

5. ADENOCARCINOMA OF THE KIDNEY. A SERIES OF 237 CASES.

Cinqualbre J, Py JM, Goldschmidt P, Bollack C
Clinique Urologique, Pavillon Chirurgical A, Hopital Central, 1, place de l'Hopital, 67005 Strasbourg, France
Ann Urol (Paris); 15(6):368-370 1981

Of 237 patients (148 men, 89 women; mean age, 62) surgically treated for adenocarcinoma of the kidney, 82 were in Stage I, 30 in Stage II, 79 in Stage III, and 46 in Stage IV. Operative and postoperative mortality was 7/237. Overall survival at 1 yr was 74%; at 5 yr, 46%. The 5-yr survival rates were 85/94 for Stage I patients, 71/81 for Stage II, 49/71 for Stage III, and 7/37 for Stage IV. Of 12 patients classified as Stage IV because of pulmonary metastasis or hepatic involvement discovered at biopsy, 5 were alive 1 yr after surgery. These patients had no discernible adenopathies. Radiotherapy and chemotherapy were used postoperatively, either alone or in combination, most frequently in young patients. The advantages of adjunctive therapy were unclear. (8 Refs) (In FRE)

6. SPINAL CORD DAMAGE AS A COMPLICATION OF RENAL ARTERY EMBOLIZATION IN PATIENTS WITH RENAL CARCINOMA.

Milewski JB, Malewski AW, Malanowska S, Borkowski A, Skowronski IA, Tomankiewicz Z, Sawicka E
Dept. Radiology, Inst. Surgery, Neurology, and Pathology, Warsaw, Poland
Int Urol Nephrol; 13(3):221-229 1981

Complications of renal artery embolization (RAE) in three patients with renal carcinoma are reported. RAE through a catheter is used in urological radiology, particularly in patients with renal neoplasms, as a preoperative measure or therapeutic procedure when the condition of the patient precludes nephrectomy. RAE was performed in two female patients (64 and 65 yr old) and in a male patient (68 yr old). Two patients were admitted to the hospital with hematuria and pain in the lumbar area; one was admitted with painless hematuria. During renal arteriography and RAE, catheters without occluding balloons were used. Neurological signs developing during or immediately after RAE were flaccid paraparesis, sphincter paralysis, and sensory loss in the lower extremities and anogenital area. Regression of the neurological syndrome was observed in two patients; in these patients paraparesis was of moderate intensity and more pronounced in the left leg, suggesting lumbosacral spinal cord lesion. In the third patient with paraparesis developing immediately after RAE and the most extensive sensory loss, practically no improvement was observed. Sudden onset of the syndrome of spinal cord damage, direct association with RAE, and clinical improvement in two patients suggest a vascular mechanism of the observed disturbances. Differences in clinical course depend on the pattern of vascularization of the lumbosacral segment of the spinal cord; considerable individual differences exist in the vascularization of this part of the spinal cord. RAE must not be done in patients with short or stenosed renal artery, and in cases where anatomical changes could be expected in the int ima of the renal artery. Intensive pharmacological and rehabilitation treatments are mandatory when neurological signs appear after RAE. (17 Refs)

7. HEPATIC DYSFUNCTION IN RENAL CARCINOMA.

Fletcher MS, Packham DA, Pryor JP, Yates-Bell AJ
(c/o Pryor) Dept. Urology, King's Coll. Hosp., Denmark Hill, London SE5 9RS, England
Br J Urol; 53(6):533-536 1981

In a retrospective review of 81 patients with renal carcinoma, 34 (42%) had abnormalities of one or more liver function tests. Fifteen patients (18.5%) had abnormalities of three or more liver function tests but without evidence of hepatic metastases. There was a significant association between these patients and the presence of fever, anemia, weight loss and a raised ESR (p less than 0.001) compared with those whose liver function was normal. Following nephrectomy, liver function returned to normal in five patients. Median survival in

these patients was 35 mo, while in those whose liver function remained abnormal, the median survival was 8 mo (p less than 0.01). (Author abstract) (24 Refs)

8. CALCIFIED CYSTIC ADENOCARCINOMA OF THE KIDNEY.

Pozo JL
Univ. Coll. Hosp., London WC1, England
J R Soc Med; 74(12):920-921 1981

The differential diagnosis of a benign calcified renal cyst and a calcified cystic adenocarcinoma of the kidney in a 75-yr-old woman is described. The calcified cyst was found to contain an adenocarcinoma in the cyst wall adjoining the renal parenchyma. The importance of early exploration of renal masses with peripheral calcification is discussed. The need for a more radical resection in cases of calcified cysts is emphasized. (10 Refs)

9. METASTATIC RENAL CELL CARCINOMA TO THE EYE AND ADNEXAE: A REPORT OF THREE CASES AND REVIEW OF THE LITERATURE.

Kindermann WR, Shields JA, Eiferman RA, Stephens RF, Hirsch SE (c/o Shields) Oncology Service, Wills Eye Hosp., 9th and Walnut Sts., Philadelphia, PA, 19107
Ophthalmology (Rochester); 88(12):1347-1350 1981

Clinical and pathologic findings in three white male patients (58-66 yr old) who presented different ophthalmic lesions are reported. Initially, the lesions appeared to be a chalazion, a choroidal melanoma, and an orbital hemangioma, but all were shown by histopathologic examination to be metastatic renal cell carcinoma. Photomicrographs of the characteristic renal cell carcinoma cells and descriptions of therapy are given. Literature on metastatic renal cell carcinoma to the eyelid, uvea, and orbit is reviewed. Biopsy is indicated when a patient presents with an atypical adnexal, orbital, or ocular mass, especially when the history includes previous renal disorder. (30 Refs)

10. THROMBOCYTOSIS AS A TUMOR MARKER IN CASES OF RENAL CELL CARCINOMA.

Abbou CC, Lavarenne V, Chopin D, Vallantin X, Vainchenker W, Benjelloun S, Auver t J
Service d'Urologie, Hopital Henri Mondor, 51, avenue du Mal de Lattre-de-Tassigny, 94010 Creteil, France
Ann Urol (Paris); 15(6):416-419 1981

In 3 of 10 cases of renal cell carcinoma, the patients presented with urological manifestations; in 5 cases, with general symptomes of wt loss or fever; and in 2 cases, with symptoms related to metastases. Erythrocyte sedimentation rate was elevated, and the mean platelet count was 650,000/mm3. The tumor classification included one intracapsular tumor with no vascular or lymphatic invasion, six tumors with regional invasion, and three metastasizing tumors. In eight patients who were subjected to wide nephrectomy, the platelet count became under control between the second and eighth postoperative day. In seven of these patients, the count lowered to less than 450,000/mm3; in one of the patients, the count became normal in about a mo. In two patients who developed metastases, the thrombocytosis disappeared following surgery and reappeared at the same time that tumor invasion escaped the treatment and metastases appeared. It is suggested that the tumors secrete a thrombopoietic factor and that the platelet count could be used as a tumor marker in the course of renal cell carcinoma. (15 Refs) (In FRE)

TUMORS OF THE RENAL PELVIS AND URETER

11. ABUSE OF PHENACETIN-CONTAINING ANALGESICS AND CARCIOMA OF THE RENAL PELVIS.

Syre G, Matejka M
Pathologisch-Anatomisches Institut, Universitat Wien, Spitalgasse 4, A-1090 Wien, Austria
Wien Klin Wochenschr; 93(13):420-423 1981

A retrospective analysis of 39 carcinomas of the renal pelvis that had been treated between 1968-1979 revealed capillary sclerosis in 12 cases. In 18 patients no capillary sclerosis was seen, and 9 tumors could not be analyzed. Since in 25% of the cases with capillary sclerosis phenacetin abuse was known, the sale of that analgesic should be professionally controlled. Patients, who receive phenacetin regularly, should be submitted to regular cytologic examination. Moreover, the obligation of the physician to inform the patient about the advantages and disadvantages of a treatment should include the cancer risk in case of phenacetin treatment. (27 Refs) (In GER)

12. RENAL PELVIC NEOPLASMS AND ATYPICAL UROTHELIUM IN PATIENTS WITH END-STAGE ANALGESIC NEPHROPATHY.

Blohme I, Johansson S
Dept. Surgery, Sahlgren's Hosp., 413 45 Goteborg, Sweden
Kidney Int; 20(5):671-675 1981

Of 772 patients subjected to kidney transplants for terminal renal failure, 84 had histories of regular consumption of phenacetin-containing analgesics (PCAN). Histological examination of kidney specimens from 56 patients with PCAN nephropathy showed urethelial atypia in 27/56 patients and carcinoma of kidney pelvis in 4/56. These findings confirm the association between PCAN abuse and the gradual development of neoplastic lesions of the urinary tract. (23 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

13. URETERO-URETEROSTOMY, TRANSURETERO-URETEROSTOMY.

Borkowski A, Bec A
Dept. Urology, Inst. Surgery, Medical Academy, Warsaw, Poland
Int Urol Nephrol; 13(3):261-270 1981

The possibility of using uretero-ureterostomy (UU) in cases with healthy bladder and in cases with supracystic urinary diversion are discussed. Twenty-one UU were conducted, including 2 transuretero-ureterostomies (Group I), 2 transuretero-ureterocystoneostomies (Group II), and 17 transuretero-ureterocutaneostomies (Group III). Cases of a 33-yr-old woman from Group I and of patients from Group II (47-yr-old woman, 45-yr-old man) are detailed. No complications that could have been related to UU occurred in Group I and II. Group III consisted of 15 patients who were operated on for neoplasms (11 patients with bladder carcinoma, 1 with urethral carcinoma, 2 with cervical carcinoma, 1 with rectal carcinoma) and 2 patients who were operated on for congenital anomalies. The case of a 62-yr old male is detailed. Complications observed in Group III frequently developed after radiotherapy.

Complications related to UU were transient urine leakage that healed after insertion of a catheter into ureterocutaneostomy (UC), ureteral stenosis, pyonephrosis, and nephrectomy. More general complications included gastrointestinal hemorrhage and eventration after operation. The main problem was narrowing of the foramen of UC despite different surgical techniques. Functioning of UC was normal in 8/17 patients from Group III. Stenosis of the recipient ureter was never observed, and stenosis of the donor ureter developed in only one case. UU is relatively safe and recommended for selected cases. Patients with wide ureters should be selected. Urine bags should enable the patients to live without catheters. If the ureters are not sufficiently wide the skin foramen of UC has a tendency to stenosis, and periodic dilatation or catheter insertion is required. (13 Refs)

14. RADIOTHERAPY AND CYSTECTOMY FOR T3 BLADDER CARCINOMA.

Hall RR, Heath AB

Dept. Urology, Freeman Hosp., High Heaton, Newcastle upon Tyne NE7 7DN, England

Br J Urol; 53(6):598-601 1981

The survival of 102 patients with category T3 transitional cell carcinoma of the bladder treated by pre-operative radiotherapy and radical cystectomy has been analyzed according to the degree of down-staging of tumor as assessed by the depth of infiltration of cancer in the operative specimen. Five-yr survival was 60% for patients showing evidence of down-staging, compared with 30% when persistent deeply invasive tumor was present at the time of cystectomy. Analysis of available data suggests that survival of patients with category T3 bladder cancer is determined by the response of the tumor to initial radiotherapy rather than the dose of radiotherapy or the addition of cystectomy. Despite radical treatment, the survival of patients with locally advanced bladder cancer is poor; as an alternative, more effective forms of therapy should be sought. (Author abstract) (9 Refs)

15. PROPHYLACTIC ORAL METHOTREXATE THERAPY FOR MULTIPLE SUPERFICIAL BLADDER CARCINOMA.

Hall RR, Herring DW, Gibb I, Heath AB

Dept. Urology, Freeman Hosp., High Heaton, Newcastle upon Tyne NE7 7DN, England

Br J Urol; 53(6):582-584 1981

Sixteen patients with multiple, frequently recurring Ta/T1 transitional cell carcinoma of the bladder were treated with methotrexate syrup (50 mg orally every wk for 18 mo). In 11 patients the frequency, number and size of tumor recurrences decreased markedly. In three patients the incidence of tumor recurrence appeared unchanged, and in two patients the disease progressed and required cystectomy. Overall, the average number of tumors recurring per patient mo at risk fell significantly from 2.6 to 1.2 while taking methotrexate. It is suggested that oral methotrexate may provide an effective alternative to intravesical chemotherapy for the prevention of recurrent superficial bladder carcinoma. (Author abstract) (4 Refs)

16. A CONTROLLED TRIAL OF SINGLE DOSE INTRAVESICAL ADRIAMYCIN IN SUPERFICIAL BLADDER TUMOURS.

Abrams PH, Choa RG, Gaches CG, Ashken MH, Green NA

Dept. Urology, Norfolk and Norwich Hosp., Brunswick Road, Norwich NR1 3SR, England

Br J Urol; 53(6):585-587 1981

Sixty patients with recurrent superficial bladder tumors (Ta or T1) entered an open controlled trial of single dose adriamycin. After transurethral resection of tumor recurrences, patients were alternately allocated to the control group or to the adriamycin group, who received an instillation of 50 mg of adriamycin in 50 ml of saline for 30 min. Six mo later all patients were readmitted for endoscopy. In the adriamycin group significantly more patients showed a decrease in the number of recurrent papillomas (72%) than in the control group (39%). This study shows that the us of adjuvant chemotherapy in the form of single dose adriamycin is effective in reducing tumor recurrence. (Author abstract) (6 Refs)

17. OUR EXPERIENCE OF INTRAVESICAL INSTILLATION THERAPY FOR BLADDER CANCER USING ACLACINOMYCIN A.

Shuin T, Moriyama M, Miura T, Kubota Y, Nishimura R, Takai S

Dept. Urology, Yokohama City Univ. Sch. Medicine, Yokohama City, Japan

Hinyokika Kiyo; 27(9):1119-1123 1981

In an effort to minimize the local and general side effects and obtain a better result of the treatment with intravesical instillation on the recurrent superficial bladder cancer, we tried this method using aclacinomycin A. The subjects in this experiment were nine cases with superficia l bladder cancer, 30 ml of 300 ug/ml of aclacinomycin A was instilled into the bladder cavity, 2-3 times every wk, total 8-16 times. The results obtained were as follows. Complete disappearance of the tumor was attained in six out of the nine cases and reduction of the tumor size over 50% in two out of the nine cases. No change was observed in the remaining one case. Local side effects such as urinary frequency and pain on urination were found in three out of the nine cases. The general untoward effects were not detected as judged by the examination of peripheral blood, ECG and liver-kidney function. From the results above obtained, it was noted that aclacinomycin A was effective on the recurrent superficial bladder cancer with minimum side effects when instilled intravesically. (Author abstract) (15 Refs) (In JPN)

18. EFFECTS OF COMBINED INTRAVESICAL INSTILLATION OF CYTOSINE ARABINOSIDE AND CARBOQUONE ON RECURRENCE RATE OF BLADDER TUMORS.

Kagawa S, Maebayashi K, Yuasa M, Numata A, Takigawa H, Hashimoto H, Sumitani H, Saiki T

Dept. Urology, Tokushima Univ. Sch. Medicine, Tokushima, Japan

Hinyokika Kiyo; 27(9):1099-1102 1981

Prophylactic effects of combined intravesical instillation of cytosine arabinoside and carboquone on recurrence rate of bladder tumor were studied in 42 patients. Thirty ml soln containing cytosine arabinoside 100 mg and carboquone 10 mg was instilled into the bladder once a wk for 10 wk, and once a mo for subsequent 10 mo. The recurrence rate was 14.6% after 1 yr, 27.4% after 2 yr, 33.4% after 3 yr, 33.4% after 4 and 5 yr follow up. On the basis of our observation, it is concluded that

the prophylactic instillation therapy with cytosine arabinoside and carboquone is effective for the prevention of postoperative recurrence of bladder tumors. (Author abstract) (14 Refs) (In JPN)

19. TWO CASES OF THE ANAPHYLACTIC SHOCK DUE TO INTRAVESICAL INSTILLATION OF CARBOQUONE AND CYTOSINE ARABINOSIDE.

Washida H, Jinno H, Watanabe H, Fushimi N
Dept. Urology, Anjo Kosei Hosp., Japan
Hinyokika Kiyo; 27(9):1093-1098 1981

Two cases are reported in whom an anaphylactic shock attacked as a side effect of the intravesical instillation of carboquone (CQ) and cytosine arabinoside (CA) for bladder tumor. Case 1: A 74-yr-old man had been treated with transurethral resection and intravesical instillation of CQ for bladder tumor (transitional cell carcinoma Grade 2). At the 11th prophylactic intravesical instillation of CQ 10 mg and CA 40 mg, (totally 64th bladder instillation, CQ 640 mg, CA 2,040 mg), an anaphylactic shock attacked the patient. On laboratory examination, the level of serum immunoglobulin E (IgE) was elevated on shock. Case 2: A 58-yr-old man had been treated with intravesical instillation of CQ for bladder tumor (transitional cell carcinoma Grade 2). An anaphylactic shock attacked the patient on his fourth prophylactic intravesical instillation of CQ 10 mg and CA 40 mg, (totally 39th instillation). The value of the serum IgE tended to be elevated on shock. But anti-CQ antibody was not detected on his serum by immunological examination. Prediction of the anaphylactic shock is so difficult that well-taken history of the patient and the serum IgE level seem to be important. (Author abstract) (25 Refs) (In JPN)

20. LOCAL TUMOR CONTROL AND THE SUBSEQUENT INCIDENCE OF DISTANT METASTATIC DISEASE.

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Int J Radiat Oncol Biol Phys; 7(12):1645-1648 1981

The relationship between local tumor control (LTC) and subsequent incidence of metastases was studied in 73 patients with carcinoma of the bladder (CB) and in 122 patients with carcinoma of the uterine cervix (CC) in Stages IIB, III, and IV. Patients in both groups were randomized to radiotherapy in hyperbaric oxygen or in air. CB patients received radiation to the bladder and lymphatic drainage of the true pelvis. CC patients received radiation to the cervix and body of the uterus, true pelvis, and iliac nodes. A strong positive correlation was found between LTC and survival. A life table of patients with CC showed a plateau of metastasis-free survival (MFS) at approx 70% for patients in whom LTC had been achieved, compared with a plateau at approx 10% for those in whom LTC was not achieved. Similar results were shown by a life table of patients with CB. Eighteen of 20 patients with CC who had never been classified as tumor-free during treatment died within the first 12 mo of treatment. Data suggested that most patients with failure of LTC would have developed metastases if they had survived long enough. Although detecting a reduction in the incidence of metastases as a result of improved LTC would be difficult, the importance of LTC in preventing metastases is stressed. (4 Refs)

21. CLEAR CELL ADENOCARCINOMA OF THE FEMALE URETHRA: CLINICAL AND ULTRASTRUCTURAL STUDY SUGGESTING A UNIQUE NEOPLASM.

Tanabe ET, Mazur MT, Schaeffer AJ
(c/o Mazur) Dept. Pathology, Jewish Hosp. St. Louis, 216 S. Kingshighway, P.O. Box 14109, St. Louis, MO, 63178
Cancer; 49(2):372-378 1982

A case of clear cell adenocarcinoma arising in the female urethra is described. The tumor had a tubulocystic pattern and intracytoplasmic glycogen, resembling clear cell carcinomas that occur in the vagina and upper female genital tract. Ultrastructural study, however, showed abundant and elongated microvilli on the tumor cells, a feature not seen in clear cell carcinomas or other common forms of carcinoma arising in the female genital tract. Six other cases of similar tumors of the female urethra were foun d in medical literature, yet there was no example of this tumor in the bladder or male urethra. Clinical and ultrastructural observations suggest that clear cell carcinoma of the female urethra is a distinctive neoplasm. Abundant microvilli provide morphologic evidence supporting the possibility of origin from the mesonephros. Radical extirpative surgery with urinary diversion appears to be the treatment of choice. (Author abstract) (31 Refs)

22. COFFEE DRINKING AND CANCER OF THE LOWER URINARY TRACT.

Morrison AS, Buring JE, Verhoek WG, Aoki K, Leck I, Ohno Y, Obata K
Dept. Epidemiology, Harvard Univ. Sch. of Public Health, 677 Huntington Ave, Boston, MA, 02115
JNCI; 68(1):91-94 1982

The relation of coffee drinking to the incidence rate of cancer of the lower urinary tract ('bladder cancer') was evaluated. Broadly based series of cases and series of controls drawn from the general population of each area were assembled and interviewed in Boston, Massachusetts (587 cases, 528 controls), Manchester, England (541 cases, 725 controls), and Nagoya, Japan (289 cases, 586 controls). Compared to drinkers of an average of less than one cup of coffee per day, those who drank more had a relative risk of bladder cancer estimated as 1.0 (0.8-1.2, 95% confidence interval). With adjustment for cigarette smoking habits, only small and irregular changes in risk were seen with increasing frequency of coffee consumption. Duration of coffee drinking showed little relation to risk of bladder cancer. Apparent associations of coffee drinking and bladder cancer may be due to incomplete control of the effect of cigarette smoking. If there is a true association of coffee drinking and bladder cancer, it is likely to be weak. (Author abstract) (12 Refs)

23. COMBINED CELL SURFACE ANTIGENS AND CHROMOSOMAL STUDIES IN BLADDER CANCER.

Javadpour N, Roy JB, Bottomley R, Dagg K
Surgery Branch, NCI, Bethesda, MD, 20205
Urology; 19(1):29-32 1982

The conventional histopathologic examination of a primary tumor does not predict the potentiality for invasiveness and recurrence of a superficial low-grade transitional cell carcinoma of the bladder. We have utilized combined cell surface antigens and chromosomal analysis to predict the natural history of the bladder cancer in 20 patients in a double blind study. In this preliminary report it appears that both cell surface antigens and chromosomal abnormalities correlate well with the stages and grades of bladder cancer. (Author abstract) (12 Refs)

24. SPONTANEOUS CELL-MEDIATED CYTOTOXICITY IN PATIENTS WITH TRANSITIONAL CELL CARCINOMA OF THE URINARY BLADDER. DIFFERENCE IN EFFECTOR CELL POPULATION.

Moroz C, Lindner A, Twig S, Madgar I, Many M
Rogoff-Wellcome Medicel Res. Inst., Bellinson Medical Center, Petah-Tikva, Israel
Cancer Immunol Immunother; 12(1):57-62 1981

Spontaneous lymphocyte-mediated cytotoxicity (SLMC) of peripheral blood lymphocytes (PBL) from patients (male, av age 71) with transitional cell carcinoma (TCC) of the urinary bladder was studied. SLMC of PBL against K-562 cells varied greatly, but PBL from controls and patients did not differ in cytoxic activity over a range of effector:target ratios. Following separation of effector cells into T and non-T fractions, SLMC of T lymphocytes derived from TCC patients was significantly greater than that of non-T cell populations. In controls, cytotoxic activity of non-T cells was higher than that of T cells. Repeated experiments on two TCC patients over a 1 yr period consistently showed the high SLMC of T lymphocytes. The relatively higher SLMC of T cells from TCC patients was even more profoundly exhibited when Peer cells instead of K-562 cells were targets. Neither treatment with monoclonal antibodies OKT 8 or OKT 4 and complement nor use of preparations depleted of Fc-receptor-positive cells could abolish the cytotoxicity of T cells from cancer patients. The natural killer-like T cells are thought to be a disease-related phenomenon, but their nature remains unclear. (35 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

25. PROSPECTIVE CONTROLLED ASSESSMENT OF FINE-NEEDLE PROSTATIC ASPIRATION.

Melograna F, Oertel YC, Kwart AM
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Urology; 19(1):47-51 1982

In this study, the cytologic diagnosis obtained by transrectal fine needle prostatic aspiration was compared to the histologic diagnosis obtained by prostatic needle biopsy or transurethral prostatic resection. Confirmation of all diagnoses occurred 91% of the time: 96% with benign prostatic hyperplasia, 77% with carcinoma, and 100% with prostatitis. Inadequate sampling for cytologic diagnosis occurred at the initiation of this study. False positive cancer diagnosis did not occur. False negative cancer diagnosis prompted appropriate follow-up. Fine-needle prostatic aspiration is a painless, simple to learn, minimally invasive, easily repeated, outpatient procedure for determining prostatic pathology. The procedure should be part of each urologist's diagnostic capability. (Author abstract) (7 Refs)

26. TRANSITIONAL CELL CARCINOMA INVOLVING THE PROSTATE.

Chibber PJ, McIntyre MA, Hindmarsh JR, Hargreave TB, Newsam JE, Chisholm GD
(c/o Chisholm) Dept. Surgery/Urology, Western General Hosp., Edinburgh EH4 2XU, Scotland
Br J Urol; 53(6):605-609 1981

Transitional cell carcinoma involving the prostate gland was studied in 27 patients. The different groups were recognized on the basis of the clinical pattern and histological findings. Each group has a different prognosis and merits a different approach to treatment. Thus, stromal involvement of the prostate by transitional cell carcinoma is a sinister finding that requires radical treatment, whereas ductal involvement by either carcinoma in situ or non-invasive papillary tumors can be managed less aggressively. This study emphasizes that the present classification for these tumors is unsatisfactory and that adequate histopathological information is essential for their management. (Author abstract) (14 Refs)

27. HISTOLOGIC GRADING STUDY OF PROSTATE ADENOCARCINOMA: THE DEVELOPMENT OF A NEW SYSTEM AND COMPARISON WITH OTHER METHODS - A PRELIMINARY STUDY.

Brawn PN, Ayala AG, Von Eschenbach AC, Hussey DH, Johnson DE
(c/o Ayala) Dept. Pathology, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Cancer; 49(3):525-532 1982

A new grading system for adenocarcinoma of the prostate (MDAH System) and its simplified version, both based on the percentage of tumor that is differentiated (gland-forming) or undifferentiated (non-gland-forming), were compared with the grading system of Mostofi and Gleason. In a study group of 182 patients with Stage C adenocarcinoma of the prostate, the MDAH system identified 84 patients (46%) as Grade 1, 75 (41%) as Grade 2-3, and 23 (13%) as Grade 4. Kaplan-Meier survival curves predicted a 91% 5-year survival for Grade 4 patients, a 60% 5 yr survival for Grade 2-3 patients, and a 15% survival for Grade 4 patients. Wilcoxon (Gehan modification) tests showed that the survival was significantly different among Grades 1, 2-3, and 4. The MDAH System is an improvement over other grading systems in that it is a simple, low-power microscopic method that depends only on the percentage of gland formation in the tumor and further reflects the biologic behavior of the tumor as measured by the patient's survival. (Author abstract) (8 Refs)

28. CRYOSURGERY IN PROSTATIC CANCER: SURVIVAL.

Bonney WW, Fallon B, Gerber WL, Hawtrey CE, Loening SA, Narayana AS, Platz CE, Rose EF, Sall JC, Schmidt JD, Culp DA
Dept. Urology, Univ. Iowa Hosp., Iowa City, IA, 52242
Urology; 19(1):37-42 1982

From 1969 through 1976 we performed cryosurgery in 229 cases of prostatic cancer. This article presents survival in cryosurgery and other treatment groups. In every stage, despite a preponderance of large primary tumors and poor-risk patients, cryosurgery matched total prostatectomy and compared favorably to other modalities, including radiation therapy, at our center and elsewhere. According to previous authors, and in view of the present data, eradication of the local lesion is associated with better survival even in advanced cases. Cryosurgery provides a safe effective method. (Author abstract) (14 Refs)

29. HALF-BODY IRRADIATION IN THE TREATMENT OF METASTATIC PROSTATIC CARCINOMA.

Rowland CG, Bullimore JA, Smith PJ, Roberts JB
(c/o Smith) Dept. Urology, Bristol Royal Infirmary, Marlborough St., Bristol BS2 8HW, England
Br J Urol; 53(6):628-629 1981

High dose radiation therapy given as a single fraction to the upper and lower halves of the body gives effective palliation for metastatic solid tumors. This treatment modality appears to be particularly effective in tumors which may have a slow doubling time such as carcinoma of the prostate. Fifty-two patients with metastatic carcinoma of the prostate involving the skeletal system have received half-body irradiation. All had prior treatment with additive hormones or orchiectomy, and the majority had received localized irradiation and/or chemotherapy. Significant immediate pain relief was achieved in 42 out of 52 patients (80%). This pain relief was maintained until death in 29 out of 43 patients (67%). Pain relief in responders appears to occur within 24 to 48 hr of treatment. (Author abstract) (5 Refs)

30. TREATMENT OF PROSTATIC ADENOCARCINOMA WITH FAST NEUTRONS AND HIGH-ENERGY PHOTONS.

Richard F, Ang KK, Wambersie A
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Acta Urol Belg; 49(4):460-482 1981

Radiotherapy (RT) of prostatic adenocarcinomas (PA) with a combination of high-energy photons and fast neutrons as used at the 'Cliniques Universitaires Saint-Luc' and the 'AZ Sint-Rafael' are described. Problems encountered with conventional RT of PA are described. Oxygen effects and cellular radiosensitivity must be considered when using fast neutrons in cancer therapy. Characteristics of neutron beams are considered in relation to tissue penetration. Generation of high-energy photons and fast neutrons is described. According to the American Radiation Therapy Oncology Group, mixed fraction (photons/neutrons) radiation should be administered in two doses: 50 grays over a period of 5 wk, followed by 16 gray over 1.6 wk. Factors considered in relation to this schema include relative biological effectiveness, determination of irradiation field, neutron/photon fractionation and dose administration, and practical disposition. Radiobiological data suggests that PA provide a good indication for neutron therapy. (34 Refs) (In FRE)

31. CARDIOVASCULAR COMPLICATIONS IN THE TREATMENT OF PROSTATIC CARCINOMA.

Glashan RW, Robinson MR
Dept. Urology, Royal Infirmary, Lindley, Huddersfield, Yorkshire, England
Br J Urol; 53(6):624-627 1981

Cardiovascular complications in patients with carcinoma of the prostate have been studied in relation to three methods of treatment, namely stilbestrol, estramustine phosphate (Estracyt) and bilateral orchiectomy. One hundred and sixteen patients were studied over a 4-yr period on a prospectiv e basis, 48 being treated with stilbestrol, 31 with estramustine and 37 with bilateral orchiectomy. The incidence of the cardiovascular side effects of these three treatment regimes in the first yr of treatment was recorded after the patients had been divided into those with localized (MO) disease and advanced disease with metastases (M1). In patients treated with stilbestrol, 29% had cardiovascular complications with a mortality rate of 16%. With estramustine 25% had complications with a 16% mortality rate, but with orchiectomy the complication rate was only 8%, with a 3% mortality rate. It is recommended that stilbestrol and estramustine phosphate should not be used in the presence of cardiovascular disease and that the primary form of treatment in prostatic carcinoma should be bilateral orchiectomy, especially in patients with localized disease. (Author abstract) (9 Refs)

32. THE ROLE OF VERTEBRAL VEINS IN THE DISSEMINATION OF PROSTATIC CARCINOMA.

Dodds PR, Cardie VJ, Lytton B
(c/o Lytton) Section Urology, Yale Univ. Sch. Medicine, 333 Cedar St., New Haven, CT, 06510
J Urol; 126(6):753-755 1981

The concept that the vertebral system of veins acts as a direct conduit in the spread of prostatic carcinoma to the skeletal system is based on the poorly documented observation that this tumor metastasizes preferentially to the pelvis, lumbar spine and sacrum. We analyzed 99mtechnetium bone scans in patients with skeletal metastases from assorted primary tumors and found that the distribution of metastases was virtually identical in patients with prostatic and nonprostatic tumors. Of the patients with prostatic carcinoma 25% had bone scan lesions exclusively outside the region of the sacrum, pelvis and lumbar spine. The distribution of skeletal metastases from prostatic carcinoma does not support the concept that the vertebral veins have a substantial role in the dissemination of this tumor. (Author abstract) (18 Refs)

33. RHABDOMYOSARCOMA OF PROSTATE IN ADULT: LONG-TERM SURVIVAL AND PROBLEM OF HISTOLOGIC DIAGNOSIS.

Dupree WB, Fisher C
Dept. Pathology, Dartmouth Medical Sch., Hanover, NH
Urology; 19(1):80-82 1982

Only one case of primary rhabdomyosarcoma of the prostate in an adult with a 5-yr survival has been described previously. Reported here is a case of recurrent lesion initially diagnosed as a fibroepithelial polyp and then later recognized to be rhabdomyosarcoma. Radical surgery was not performed, yet the patient survived 7 yr before dying of generalized metastatic rhabdomyosarcoma. This course represents a unique pathobiology for primary rhabdomyosarcoma of the prostate. It also demonstrates a histologic continuum between fibroepithelial polyp and rhabdomyosarcoma in which the pathognomonic features of the sarcoma were not recognized until 2 yr after the initial biopsy. This argues for an increased index of suspicion for sa rcoma of the prostate in a young person with a prostatic nodule even in the face of a benign-looking initial biopsy. (Author abstract) (13 Refs)

34. SERUM AND BONE MARROW RADIOIMMUNOASSAY OF ACID PHOSPHATASE IN PROSTATIC CANCER.

Sarosdy MF, Kledzik G, Lamm DL
Div. Urology, Univ. Texas Health Science Center, San Antonio, TX, 78284
Urology; 19(1):33-36 1982

Use of radioimmunoassay (RIA) for determinations of prostatic acid phosphatase has recently received considerable attention because of reported higher sensitivity and specificity than

previous enzymatic assays. We have compared the sensitivity and specificity of a commercially available RIA to a highly specific enzymatic assay (thymolphthalein monophosphate) using 37 patients with prostatic cancer and 34 patients with surgically proved benign prostatic hyperplasia. Seventeen of the cancer patients and all 34 of the BPH patients were studied prospectively. We further evaluated specificity by performing the RIA on 25 specimens of bone marrow from patients with nonprostatic disease. Our results indicate that radioimmunoassay is not, at this time, an adequate screening tool, and we question its accuracy in staging patients any more reliably than by enzymatic assay. (Author abstract) (16 Refs)

35. GLUCOSE-6-PHOSPHATE DEHYDROGENASE: A POSSIBLE CLINICAL INDICATOR FOR PROSTATIC CARCINOMA.

Zampella EJ, Bradley EL, Pretlow TG
(c/o Pretlow) Dept. Pathology, Univ. Alabama Medical Center, University Station, Birmingham, AL, 35294
Cancer; 49(2):384-387 1982

Any system of biochemical analysis that can be used to detect chemical differences between normal and malignant cells may add potentially valuable information to complement the histologic data which provide the practical definition of human prostatic carcinoma. A difference (p less than 0.0001) was observed in the levels of glucose-6-phosphate dehydrogenase (G-6-PD) activity in prostatic tissue with benign hyperplasia and prostatic carcinoma. Measured as a function of the amount of protein extracted from whole-tissue homogenates, the values for G-6-PD activity in prostatic carcinoma are almost 4x those measured for benign prostatic hyperplasia. The degree of elevation of the activity of this enzyme suggests a correlation between enzymatic activity and clinical prognosticators, ie, histologic differentiation and clinical stage. (Author abstract) (15 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

36. ANATOMICAL CONSIDERATIONS IN SUPRAHILAR LYMPH NODE DISSECTION FOR TESTICULAR TUMORS.

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Urol Int; 36(6):341-345 1981

To evaluate the usefulness of removing lymph nodes located above the renal vesse ls in men with nonseminomatous testicular cancer we have: (1) reviewed the anatomy of the testicular lymphatic drainage; (2) analyzed data on 30 suprahilar lymph node dissections, and (3) reviewed 19 CT scans on patients with testicular cancer. Because the primary lymphatic drainage of the testis is not to suprahilar nodes, in the absence of bulky disease these lymph nodes rarely contain metastatic disease. Furthermore, because most suprahilar lymph nodes are located behind the aorta in between the crura of the diaphragm these lymph nodes are difficult, if not impossible, to resect. Thus, in patients without lymph node enlargement, suprahilar extension of routine lymphadenectomies is not recommended. (Author abstract) (16 Refs)

37. SURGICAL TREATMENT OF CLINICAL STAGE I NONSEMINOMATOUS GERM CELL TUMORS OF THE TESTIS.

Whitmore WF
Urologic Service, Dept. Surgery, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer Treat Rep; 66(1):5-10 1982

The rationale for further treatment after orchiectomy and the logical basis of the principal therapeutic alternatives in the management of clinical Stage I nonseminomatous germ cell tumors of the testis have been reviewed. Retroperitoneal lymph node dissection provides the epitome of staging accuracy and a high degree of therapeutic effectiveness in clinical Stage I nonseminomatous germ cell tumors of the testis and is associated with minimal early and late morbidity and a low mortality. However, all methods of further active therapy after radical orchiectomy are under legitimate scrutiny in view of the burden of unnecessary therapy, the accuracy of clinical staging, the ability to recognize failures early, and the high probability of successful treatment of such failures. (Author abstract) (37 Refs)

38. ELECTIVE DELAYED EXCISION OF BULKY PARA-AORTIC LYMPH NODE METASTASES IN ADVANCED NON-SEMINOMA GERM CELL TUMOURS OF TESTIS.

Hendry WF, Goldstraw P, Husband JE, Barrett A, McElwain TJ, Peckham MJ
(c/o Peckham) Dept. Radiotherapy, Royal Marsden Hosp., Downs Road, Sutton, Surrey SM2 5PT, England
Br J Urol; 53(6):648-653 1981

Forty-one patients with advanced non-seminoma germ cell testicular tumors were treated by chemotherapy, with or without radiotherapy, followed by excision of residual para-aortic lymph node masses. All para-aortic metastases were initially greater than 2 cm, 35 were larger than 5 cm, and 9 were over 10 cm in diameter. Seven patients also had nodal deposits above the diaphragm, and 18 had distant metastases. The residual masses were excised completely in all except three cases. Residual malignancy was found in 7 (18%) of 38 operable cases; of these 7, only 2 remain alive and disease-free. In contrast, 28 (90%) of 31 operable cases with necrosis and fibrosis, or with fully differentiated teratoma, are alive and disease-free. Elevated serum markers were found in 6 of 9 cases with resectable or unresectable residual malignancy, but in only 1 of 32 who were tumor-free. Residual malignancy was found in 3 (9%) of 34 cases with normal marker levels. Malignancy was not found in any residual mass less than 4 cm in diameter. We conclude that excision of para-aortic lymph node masses should be electively delayed until serum markers become normal and shrinkage of the mass has ceased. The presence of residual malignancy in the excised tissue then provides a clear indication for further chemotherapy. (Author abstract) (12 Refs)

39. NON-HODGKIN LYMPHOMA OF THE TESTIS.

Tepperman BS, Gospodarowicz MK, Bush RS, Brown TC
Ontario Cancer Foundation, Hamilton Clinic, Henderson General Hosp., 711 Concession St., Hamilton, Ontario, L8V 1C3, Canada
Radiology; 142(1):203-208 1982

Sixteen patients (median age 67 yr) with non-Hodgkin lymphoma of the testis were studied. Twelve of these patients had disease that was classified as local (Stages IE and IIE). Eight patients had diffuse histiocytic lymphoma, six had diffuse poorly differentiated lymphocytic lymphoma, one had both

lymphoma and seminoma, and one had nodular poorly differentiated lymphocytic lymphoma. The overall median survival was 9.5 mo. Para-aortic nodal involvement was the factor that had the strongest prognostic influence with the management methods used. Median survival without para-aortic nodal involvement was 57+ mo, but with such involvement it was 6 mo ($p = 0.002$). There is a high probability of generalized disease if lymphoma can be detected in the para-aortic nodes. For patients with Stages IE and IIE disease, radical radiation therapy is the preferred treatment. For those with disseminated disease, chemotherapy, with irradiation reserved for symptomatic and bulky localized deposits, is the recommended method of management. (Author abstract) (38 Refs)

40. NABILONE: AN EFFECTIVE ANTIEMETIC IN PATIENTS RECEIVING CANCER CHEMOTHERAPY.

Einhorn LH, Nagy C, Furnas B, Williams SD
Indiana Univ. Medical Center, 1100 West Michigan, Emerson Hall Room 435, Indianapolis, IN, 46223
J Clin Pharmacol; 21(Suppl8/9):64S-69S 1981

A randomized, double-blind crossover study was carried out in 100 cancer patients to compare the efficacy and safety of nabilone (2 mg/6 hr, po) with those of prochlorperazine (10 mg/6 hr, po) for treatment of nausea and vomiting caused by chemotherapy. Of 80 evaluable patients (median age 28 yr), 70 were receiving cisplatin as part of their therapeutic regimen for testicular cancer. Patients rated nausea while taking nabilone as less severe and of shorter duration than that while taking prochlorperazine. Patients taking nabilone reported approx 33% reduction of vomiting and had a mean 12 fewer episodes of vomiting during the 5-day course of cisplatin therapy; the mean number of vomiting episodes on each day of chemotherapy was significantly higher during prochlorperazine therapy than during nabilone therapy. After the study, 60 patients (75%) preferred nabilone, 17 (21%) preferred prochlorperazine, and 3 (4%) had no preference. Subjective experience of a 'high,' reported by 40 patients when taking nabilone, was dose related. Comparable numbers of patients experienced 20-29 mm Hg decreases in blood pressure when taking nabilone (29%) and prochlorperazine (34%), but a greater proportion experienced decreases of greater than 30 mm Hg when taking nabilone (51% vs 29%). These results demonstrate the efficacy of nabilone as an antiemetic agent compared with prochlorperazine. Hypotension, drowsiness, and 'high' are the most significant toxic effects, but these were generally well tolerated in the hospital setting. (10 Refs)

41. RADIATION-INDUCED SARCOMA FOLLOWING RADIOTHERAPY FOR TESTICULAR TUMOR.

Lynch DF, Herr HW
Urology Service, Naval Regional Medical Center, Portsmouth, VA, 23708
J Urol; 126(6):845-846 1981

We reported four cases of soft tissue sarcoma following radiation therapy for testicular tumor. The tumors included leiomyosarcoma, fibroxanthosarcoma, reticulum cell sarcoma and spindle cell sarcoma. Each malignancy arose within the irradiated area after a long latent period (mean 12 yr) and each was histologically proved. Total radiation doses ranged from 3,500 to 9,000 rad. Three patients died as a result of the second neoplasm. Radiation-induced sarcomas are rare but must be considered in the differential diagnosis of new tumor growth in patients treated previously with radiotherapy. Full evaluation of such new tumor growth, including tissue diagnosis, is necessary before additional therapy is prescribed. (Author abstract) (7 Refs)

42. A CASE OF SEMINOMA IN THE LEFT EPIDIDYMIS.

Sakamoto W, Sugimoto T, Yasumoto R, Kashiwara N, Nishio S, Maekawa M, Yamamoto K, Kono S
Dept. Urology, Osaka City Univ. Medical Sch., Osaka, Japan
Hinyokika Kiyo; 27(9):1087-1091 1981

A 35-yr-old man noticed a mass in the left scrotum 8 mo prior to visit. Palpation detected an elastic hard, non-tender tumor with a smooth, sharp border in the upper scrotum which was distinguishable from the testis. A left inguinal orchiectomy was done. A well circumscribed tumor, 3 x 4 x 5 cm in size, virtually replaced the epididymis. Pathohistological study demonstrated pure seminoma arising from the epididymal region and there was no infiltration to the testis, several sections of which failing to show seminomatous involvement. We believe this case is the fourth report in the Japanese literature. (Author abstract) (15 Refs) (In JPN)

43. COMMERCIAL RADIOIMMUNOASSAY FOR BETA SUBUNIT OF HUMAN CHORIONIC GONADOTROPIN: FALSELY POSITIVE DETERMINATIONS DUE TO ELEVATED SERUM LUTEINIZING HORMONE.

Fowler JE, Platoff GE, Kubrock CA, Stutzman RE
Univ. Virginia Sch. Medicine, Charlottesville, VA, 22908
Cancer; 49(1):136-139 1982

Among 17 men who had received seemingly curative treatment for unilateral non-seminomatous germ cell tumors for the testis and who had consistently normal serum human chorionic gonadotropin (HCG) levels at a reference laboratory, 7 (41%) had at least one falsely positive commercial serum HCG determination. To investigate the cause of these falsely positive determinations the authors measured the cross reactivity of luteinizing hormone (LH) and follicle stimulating hormone (FSH) standards in the commercial HCG assay, and studied the relationships between commercial HCG levels and serum LH levels, serum FSH levels and gonadal status in men with and without normal gonadal function. The falsely positive HCG determinations appeared to be due to elevated serum LH levels and cross reactivity of LH in the commercial HCG assay because: (1) there was substantial cross reactivity of the LH standards in the commercial assay, (2) the serum LH was elevated in four of six men with solitary testes, (3) there was a striking correlation between elevated serum LH levels and falsely elevated commercial HCG levels in 10 men with solitary or absent testes, and (4) there were no falsely positive HCG determinations in 13 normal men but there were falsely positive HCG determinations in 7 of 10 anorchid men. (Author abstract) (8 Refs)

TUMORS OF THE PENIS AND SCROTUM

44. FREQUENCY OF CARCINOMA OF PENIS WITH SPECIAL REFERENCE TO NORTH INDIA.

Jain SP, Agrawal PK, Jain S, Handa K, Sinha N, Dwivedi JN
J.K. Cancer Inst., G.S.V.M. Medical Coll., Kanpur 208 002, India
Indian J Cancer; 18(4):250-253 1981

The epidemiologic pattern of carcinoma of the penis, with special reference to North India, is reported. In the United States, carcinoma of the penis accounts for less than 1% of malignancies in males, In Burma, cancer of the penis accounts for 24.2% of all male cancers, and in Ceylon, 13.7%. Cancer of the penis is unknown in Israel. In Vishakhaptnam (India),

penile cancer accounts for 12.5% of male cancers. In the series of 231 patients reported here, carcinoma of the penis accounted for 7.23% of all male cancers. In this series, the largest number of cases were in the 40-49 yr age group (33.79%), followed by the 50-59 yr age group (24.24%). The mean age at diagnosis in most western countries is 58 yr. Carcinoma of the penis is extremely rare in cultures that practice circumcision. In the series reported here, 99.13% of patients were Hindus (uncircumcised), and only two Muslim patients were seen. The Muslims had been circumcised at ages of 10 and 9, respectively, which is relatively late. The wide variation in frequenc ies of penile carcinoma cannot, however, be completely explained on the basis of circumcision. Poor sexual hygiene and low socioeconomic status may contribute to the incidence of carcinoma of the penis, but unknown factors remain to be elucidated. (14 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

45. GAMMA-GLUTAMYL TRANSPEPTIDASE IN A NEWLY ESTABLISHED CELL LINE FROM HUMAN RENAL CARCINOMA, OUR-10.

Hada T, Higashino K, Yamamoto H, Okochi T, Sumikawa K, Watanabe S, Matsuda M, Osafune M, Kotake T, Sonoda T
Third Dept. Internal Medicine, Osaka Univ. Medical Sch., Fukushima 1-1-50, Fukushima-ku, Osaka 553, Japan
Gan; 72(6):842-847 1981

A newly established cell line, OUR-10, from human renal carcinoma seems to have the same gamma-glutamyl transpeptidase as the novel one which was found recently in renal carcinoma tissue; the enzymic properties such as electrophoretic mobility, Km value, mol wt, thermostability, the effects of urea, sodium dodecyl sulfate and sulfhydryl reagents, the effects of amino acids, cations and EDTA, and the binding behavior to a concanavalin A-Sepharose column were the same as those of the novel gamma-glutamyl transpeptidase found in renal carcinoma tissue. The immunological properties of the gamma-glutamyl transpeptidase (GGTP) of OUR-10 examined by inhibition tests and tests of cross-reactivity with anti-normal kidney GGTP antibody were also the same as those of the novel gamma-glutamyl transpeptidase. These results may mean that the novel gamma-glutamyl transpeptidase originates from the cancer cells, and can be used as a marker for identification of this cell line, OUR-10. (Author abstract) (19 Refs)

46. GROWTH CHARACTERISTICS OF N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]-FORMAMIDE (FANFT)-INDUCED MOUSE BLADDER TUMOR LINES IN A HUMAN TUMOR STEM CELL ASSAY.

Niell HB, Mickey DD, Soloway MS, Wood CA
Hematology/Oncology Section, Veterans Admin. Medical Center, Coleman Res. Building, 956 Court, Memphis, TN, 38163
Cancer; 49(2):323-330 1982

Four N-[4-(5-nitro-2-furyl)-2-thiazolyl]-Formamide (FANFT)-induced mouse bladder tumor (MBT) lines were tested for their ability to form colonies in a tumor stem cell assay. Anticancer drug testing was done using this assay to determine whether reproducible colony survival curves could be produced. All four cell lines produced colonies at 10-14 days, whether taken from culture or murine tumor. Cloning efficiencies ranged from 0.29% to 1.93% from culture and from 0.005% to 0.05% from the murine source. Growth characteristics were described. Cells from colonies were histologically similar to the original cells plated. A linear relationship existed between the number of cells plated and the number of colonies produced. In vitro drug studies were reproducible and correlated with in vivo data. Therefore, MBT lines can be used for in vitro drug testing in a tumor stem cell assay and may be useful in selecting active chemotherapeutic agents in the murine tumor model. (Author abstract) (20 Refs)

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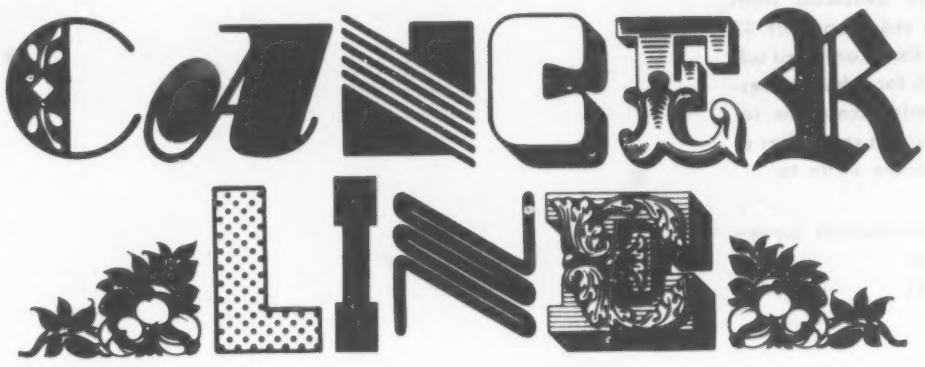

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TUMORS OF THE KIDNEY (GENERAL)

1. EVALUATION OF RENAL MASSES CONSIDERED INDETERMINATE ON COMPUTED TOMOGRAPHY.

Balfe DM, McClennan BL, Stanley RJ, Weyman PJ, Sagel SS
Mallinckrodt Inst. Radiology, Washington Univ. Sch. Med., 510 S. Kinghighway, St. Louis, MO, 63110
Radiology; 142(2):421-428 1982

Of 815 renal masses studied by computed tomography (CT), 60 did not fit the criteria for cyst or neoplasm and thus were

called indeterminate. When artifacts were present, the likely diagnosis was a simple cyst; when no artifacts were present to explain atypical features in cyst-like masses, further investigation was necessary. Angiography was useful in only 16%, while ultrasound combined with cyst aspiration was diagnostic in 84%. All solid lesions required surgical investigation. Ultrasound with or without aspiration is recommended for all cyst-like renal masses thought to be indeterminate on CT. (Author abstract) (28 Refs)

2. CLASSIFICATION OF STAGES OF RENAL TUMORS BY MEANS OF COMPUTED TOMOGRAPHY SCANNING.

Jaschke W, Van Kaick G, Palmtag H, Strauss L
Institut fur Klinische Radiologie, Klinikum Mannheim, Theodor-Kutzer-Ufer, D-6800 Mannheim 1, W. Germany
Strahlentherapie; 157(2):94-98 1981

Fifty-eight patients with malignant renal tumors were submitted to computed tomography scanning. Fifty patients were operated. In eight patients, the disease was too advanced to allow a surgical treatment. The preoperative classification of stages was made according to the Robson scheme and compared with the results of the postoperative histopathological examination. There were identical results in 82% of all operated patients. An analysis of the individual results (fat tissue infiltration, lymph node metastases, infiltration of adjacent organs or veins) shows that the method is limited by the uncertain estimation of the renal vein as well as of the beginning fat tissue infiltration. The good results should give occasion to adopt the computed tomography scanning of the kidney into the staging catalogue of IUCC. Computed tomography scanning should be the basic examination for preoperative staging of renal tumors. (Author abstract) (27 Refs) (In GER)

3. RENAL IMAGING WITH DUAL ENERGY PROJECTION RADIOGRAPHY.

Sommer FG, Brody WR, Gross D, Macovski A
Dept. Radiology, Stanford Univ. Sch. Medicine, Stanford, CA, 94305
AJR; 138(2):317-322 1982

Applications of dual energy radiography to renal imaging were evaluated using an experimental system for line-scanned projection radiography. This system combines digital radiographs simultaneously obtained at two differing x-ray energies (85 and 135 kVp) to create images in which materials of a desired mean atomic number are selectively cancelled. A preliminary evaluation of the technique was performed for three renal imaging problems: detection and characterization of renal masses of low radiographic contrast, evaluation of renal artery stenosis and unilateral renal ischemia, and detection of renal calculi. In all three applications, the dual energy technique produced results indicating potential advantages over conventional radiographic studies. (Author abstract) (11 Refs)

4. SIGNIFICANCE OF RENAL CALICES, VASCULATURE, AND LYMPHATIC SYSTEM INVASION AND EXTENSION OF TUMOR BEYOND THE LIMITS OF THE ORGAN IN HYPERNEPHROID RENAL CARCINOMA.

Flamm J
Urologische Abteilung, Wilhelminenspital, Montleartstrasse 37, A-1171 Wien, Austria
Z Urol Nephrol; 74(12):887-892 1981

Relationships between survival time and invasion of various structures was studied in 51 patients (24 men, 43-78 yr old, av age 59.5 yr and 27 women, 40-77 yr old, av age 59.1 yr) with with hypernephroid renal carcinoma (HRC). All patients underwent transperitoneal laterocolic nephrectomy without lymphadenectomy. Results were measured as 3-yr survival rate (3ysr) and 5-yr survival rate (5ysr). HRC in 21 cases did not involve invasion of renal calices, vasculature, lymphatic system, renal capsule or perihilar tissue. For these cases 5ysr was 71% (76% for T2 tumors and 50% for T3 tumors), and 3ysr was 90.4%. In 30 cases invasion of one or more tissue systems was found. Ten of these cases had multiple invasions of more than one system; 20 had single invasions of one system. Patients with invasive tumor showed a 5ysr of 33% (67% for T2 tumors and 19% for T3 tumors), and the 3ysr for T2 and T3 was 53%. The 5ysr was 45% for isolated invasion and 10% for multiple invasions. Eleven patients with isolated invasion of the renal calices had a 5ysr of 64% (75% for T2 and 33% for T3 tumors). The 5ysr was 17% for isolated invasion of vasculature and 33% for invasion of the renal capsule or perihilar tissue. Among patients with T2 tumors 5ysr was 76% for no invasion, 75% for isolated invasion of the renal calices, and 0% for invasion of vasculature. Among patients with T3 tumors 5ysr was 50% for no invasion, 33% for isolated invasion of the renal calices, 20% for invasion of vasculature, 33% for invasion of the capsule, and 10% for invasion of calices and vasculature. Results indicate that isolated invasion of the calices is prognostically important for advanced tumors but it is not for small tumors. Invasion of blood vessels or lymphatic system was indicative of the most unfavorable prognosis. (17 Refs) (In GER)

5. RENAL ARTERY EMBOLIZATION WITH POLYVINYL ALCOHOL FOAM PARTICLES.

Belis JA, Horton JA
Dept. Urology, West Virginia Univ. Medical Center, Morgantown, WV, 26506
Urology; 19(2):224-227 1982

Polyvinyl alcohol foam particles have been used for renal artery embolization using flow-controlled techniques. This material causes permanent thrombosis which originates in and near the capillary bed. Max devascularization of renal tumors can be achieved, and small renal arteriovenous malformations can be selectively occluded. (Author abstract) (13 Refs)

6. HORMONE TREATMENT OF ADVANCED RENAL CELL CARCINOMA.

Raghavaiah NV
Dept. Urology, Univ. Tennesee Center for Health Sciences, Memphis, TN
Urology; 19(2):123-126 1982

A review of hormone treatment of advanced renal cell carcinoma and results collected from different studies are presented. Advantages of treatment with medroxyprogesterone (MP) and other hormones are low toxicity rate with minimal side effects even after prolonged usage and better patient tolerance of drugs which can be administered po. Sometimes enhanced tumor activity with marked general deterioration has been noted in patients receiving MP and testosterone; patients receiving hormonal treatment should be monitored carefully in the early stages of treatment for this complication and if necessary the hormone changed. (33 Refs)

7. MESOBLASTIC NEPHROMA.

Bitter JJ, Harrison DA, Kaplan J, Irwin GA
(c/o Irwin) Dept. Radiology, Nassau County Medical Center, East Meadow, NY, 11554
J Comput Assist Tomogr; 6(1):180-183 1982

A case of mesoblastic nephroma, evaluated by computed tomography (CT), ultrasound, and angiography, is presented. To our knowledge, this is the first published report of the CT findings in mesoblastic nephroma. The case is also interesting in that the patient is one of the oldest reported with this diagnosis. (Author abstract) (11 Refs)

8. FOLLICULAR CARCINOMA OF THE THYROID METASTATIC TO THE KIDNEY 37 YEARS AFTER RESECTION OF THE PRIMARY TUMOR.

Johnson MW, Morettin LB, Sarles HE, Zaharopoulos P
(c/o Sarles) Div. Nephrology, Dept. Medicine, Univ. Texas Medical Branch, Galveston, TX, 77550
J Urol; 127(1):114-116 1982

A case is described of thyroid carcinoma presenting as renal metastases 37 yr after initial resection of the primary. Thyroid carcinoma metastatic to the kidney detected during life is rare, only 2 cases having been reported to date. An additional feature of this case is that the patient had donated the contralateral kidney for transplantation before discovery of the metastases. Metastatic thyroid carcinoma is reviewed and the implication of organ donation in patients with thyroid carcinoma is discussed. (Author abstract) (14 Refs)

9. RENAL VEIN THROMBOSIS IN RENAL CELL CARCINOMA. PROTEINURIA AS DIAGNOSTIC SIGN.

Baum NH, Mobley DF, Carlton CE
Roy and Lillie Cullen Dept. Urologic Res., Baylor Coll. Medicine, Houston, TX
Urology; 19(2):131-138 1982

Seventeen patients with renal cell carcinoma have been studied in a prospective fashion to determine the relationship between renal vein tumor thrombus and proteinuria. Four patients had renal vein tumor thrombus, and all had significant proteinuria. The 13 patients without tumor thrombus in the renal vein did not have an elevated urinary protein. Use of this simple measurement may be very useful in determining preoperatively those patients who have extension of tumor into the renal vein. (Author abstract) (19 Refs)

10. A VARIANT ALKALINE PHOSPHATASE IN RENAL CELL CARCINOMA.

Whitaker KB, Eckland D, Hodgson HJ, Saverymuttu S, Williams G, Moss DW
(c/o Moss) Dept. Chemical Pathology, Royal Postgraduate Medical Sch., Hammersmith Hosp., London W12 OHS, England
Clin Chem; 28(2):374-377 1982

We report a case of renal cell carcinoma in which up to 32% of the abnormally increased alkaline phosphatase activity in serum was contributed by a variant alkaline phosphatase originating in the primary tumor and its secondary deposits. The variant enzyme was probably an altered form of normal renal alkaline phosphatase. The rest of the alkaline phosphatase activity in the serum was of hepatic origin, but no abnormality of the liver was discovered at autopsy. (Author abstract) (15 Refs)

11. SERUM PROTEIN PROFILES IN CARCINOMA OF THE KIDNEY.

Richards B, Robinson MR, Pidcock NB, Cooper EH
York District Hosp., York, England
Eur Urol; 8(1):32-36 1982

The levels of serum acute phase reactant proteins (APRPs) have been examined in untreated kidney carcinoma and during the evolution of metastases. These proteins can provide a warning of the likelihood of extensive local or metastatic spread at first presentation. The levels of APRPs rise with increasing tumor burden but the system is insensitive to small tumor burdens. Beta2-Microglobulin levels do not contribute additional information. Serum phosphohexose isomerase tends to be elevated when there is a large tumor burden but its change does not accurately mirror the rate of expansion of the tumor. The APRPs and phosphohexose isomerase are useful in alerting the clinician to the probability of metastases or large local masses in kidney cancer, but have a limited use in monitoring. (Author abstract) (17 Refs)

12. SERUM PROTEINS AND TUMOR MARKERS IN RENAL ARTERIAL AND VENOUS BLOOD IN PATIENTS WITH RENAL CANCER.

Hisazumi H, Nakajima K, Nishino A, Naito K, Kuroda K, Migita S, Konishi K
Dept. Urology, Sch. Medicine, Kanazawa Univ., Kanazawa, Japan
Hinyokika Kiyo; 27(10):1185-1193 1981

In vivo production of some serum proteins and tumor markers in renal cancer tissue, was investigated. Their concentrations in renal arterial and venous blood samples have been determined in 11 patients with renal cancer. In two other groups, one consisting of 13 renal cancer patients without metastasis and another 13 renal cancer patients with metastasis, pre- and post-operative changes of concentration of 36 serum proteins in peripheral blood have been studied as well. The 36 serum proteins were quantitatively determined by a micro-single radial immunodiffusion method described by Migita and five tumor markers, beta-human chorionic gonadotropin (beta-HCG), alpha-fetoprotein (AFP) ferritin, carcinoembryonic antigen (CEA) and beta-2 microglobulin (BMG), were determined using commercially available radioimmunoassay kits. From the data obtained from the 11 patients, it was not possible to assure the production of a ny serum protein in renal cancerous tissue. A large variety of serum proteins showing a decrease of the concentration in renal venous blood had a relatively close relationship to patients with a large tumor lesion. A sporadic increase of several serum proteins in the venous blood was observed. Production of beta-HCG, BMG and ferritin in renal cancerous tissue was strongly suggested in one, one and five patients, respectively. In the group of 13 patients without metastasis, abnormal levels of Alb, alpha1AT, alpha1AG, Hp, C9 and Hx returned to a normal range after nephrectomy, and these post-operative alpha1AT, alpha1AG, Hp and Hx levels showed a significant difference as compared with post-operative levels of those proteins in the 13 patients with metastasis. These results suggested that post-operative changes of the four serum proteins would be a useful parameter for the occurrence of a deteriorating event in the subsequent course, eg, tumor recurrence or metastasis development. (25 Refs) (In JPN)

TUMORS OF THE RENAL PELVIS AND URETER

13. THE USE OF THE RED CELL SURFACE ANTIGEN TO PREDICT THE MALIGNANT POTENTIAL OF TRANSITIONAL CELL CARCINOMA OF THE URETER AND RENAL PELVIS.

Hall L, Faddoul A, Saberi A, Edson M
Dept. Urology and Pathology, Washington Hosp. Center, Washington, DC
J Urol; 127(1):23-25 1982

This is the first report on the use of the red cell surface antigen test in predicting the malignant potential of transitional cell carcinoma of the ureter and renal pelvis. In 29 cases evaluated there was an 80% correlation. The red cell surface antigen determination was shown to have practical value in the management of these tumors. (Author abstract) (10 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

14. TUBULAR URACHAL REMNANTS IN ADULT BLADDERS.

Schubert GE, Pavkovic MB, Bethke-Bedurftig BA
Pathologisches Institut der Kliniken der Stadt Wuppertal, Wuppertal, W. Germany
J Urol; 127(1):40-42 1982

We studied the structure and histologic appearance of intramural tubular urachal remnants in bladders from an unselected series of 122 autopsies, in which the patient age at death was 38 to 91 yr. The bladders were fixed with formaldehyde introduced 10 minutes to 5 hr post mortem. Of the bladders 32% showed tubular urachal remnants. The remnants were classified into three types on the basis of the epithelial extent and structure. Of the remnants 68.4% had lumen covered with transitional epithelium, while the remainder had columnar epithelium. Bud-like epithelial proliferations were found in 43.6% and mild dysplasia of the epithelium was found in 7.7% of the urachal remnants, while mild inflammation in the loose peritubular tissue was demonstrated in 23.1%. (Author abstract) (10 Refs)

15. CYSTECTOMY AND URINARY DIVERSION IN PATIENTS EIGHTY YEARS OLD OR OLDER.

Zincke H
Dept. Urology, Mayo Clinic and Mayo Foundation, Rochester, MN
Urology; 19(2):139-142 1982

Cystectomy and urinary diversion for symptomatic bladder cancer unresponsive to conservative treatment were electively performed in 19 patients 80 yr old or older. The operative mortality was 5.3%, and the 1-yr survival rate was 75%. This major surgical procedure seems justifiable in regard to patient morbidity and mortality, if used in a select group of patients. (Author abstract) (9 Refs)

16. MANAGEMENT OF RECTAL INJURY DURING CYSTECTOMY.

Flechner SM, Spaulding JT
Dept. Urology, Univ. California Sch. Medicine, San Francisco, CA
Urology; 19(2):143-147 1982

Rectal injury during radical cystectomy for bladder malignancy occurs in about 4% of cases. Between 1975 and 1980, we performed 70 cystectomies; 5 rectal injuries occurred. The plan of management based on this experience includes careful inspection, good nutrition, avoidance of sepsis, adequate drainage, and decompression of the disruption often requiring a sigmoid loop colostomy. (Author abstract) (19 Refs)

17. PREOPERATIVE IRRADIATION AND CYSTECTOMY FOR BLADDER CANCER.

Smith JA, Batata M, Grabstald H, Sogani PC, Herr H, Whitmore WF (c/o Batata) Urologic Service, Memorial Sloan-Kettering Cancer Center, New York, NY, 10021
Cancer; 49(5):869-873 1982

Between 1971 and 1974, 101 patients at Memorial Sloan-Kettering Cancer Center underwent planned integrated treatment for bladder cancer with 2,000 rads by megavoltage delivered to the whole pelvis over 5 consecutive days followed by radical cystectomy within a wk. The overall 5-yr survival rate was 39%; the hospital mortality rate was 2%. In the pelvis alone tumor recurred in 9% of the patients. These results support other studies demonstrating the efficacy of this and other regimens of preoperative irradiation and cystectomy. (Author abstract) (9 Refs)

18. 4,000 RAD PREOPERATIVE IRRADIATION FOLLOWED BY PROMPT RADICAL CYSTECTOMY FOR INVASIVE BLADDER CARCINOMA: A PROSPECTIVE STUDY OF PATIENT TOLERANCE AND PATHOLOGIC DOWNSTAGING.

Shipley WU, Cummings KB, Coombs LJ, Hawkins IR, Einstein AB, Penick G
Dept. Radiation Medicine, Massachusetts General Hosp., Boston, MA, 02114
J Urol; 127(1):48-51 1982

The initial National Bladder Cancer Collaborative Group A experience with 4,000 rad adjuvant preoperative radiation therapy followed promptly (within 1 to 28 days) by radical cystectomy and urinary diversion in patients with muscle-invading bladder cancer was monitored prospectively with respect to tolerance of radiation therapy, early postoperative complications and pathologic downstaging. All patients completed the scheduled megavoltage irradiation with, at most, only mild intestinal, urinary or hematologic toxicity. In addition, 86 per cent of the patients completed planned radical cystectomy, with a median interval between radiation therapy and surgery of 13.6 days. No patient died postoperatively. Of the patients 69 percent recovered with no postoperative complications, while 18 percent had 1,9 percent had 2 and 4 percent had 3 complications. Pathologic downstaging occurred in 39 percent of the patients: the disease was downstaged to stage pT0 in 24 percent and to stage pT1 in 15 percent. Of the patients with an interval of 13 days or less between radiation therapy and surgery the disease was downstaged to stage pT0 in 20 percent and 63 percent had no postoperative complications. In patients with an interval of more than 13 days, the disease was downstaged in 30 percent and 76 percent had no postoperative complications. The results support our rationale for selecting this regimen of adjuvant full dose preoperative radiation therapy,

which can shorten the interval between diagnosis and cystectomy while allowing for the possibility of pathologic downstaging and a radiation dose that is likely to sterilize unresected pelvic micrometastases. (Author abstract) (11 Refs)

19. STAGE T1NXM0 BLADDER CANCER TREATED BY RADIUM IMPLANTATION OR TRANSURETHRAL RESECTION.

van der Werf-Messing B, Hop WC
Rotterdamsch Radio-Therapeutisch Instituut, Rotterdam, The Netherlands
Ned Tijdschr Geneeskd; 125(21):825-829 1981

The therapeutic effectiveness of exclusive transurethral resection (TUR) and suprapubic radium implantation (RI) following diagnostic TUR was compared in patients with Stage T1NxM0 carcinoma of the urinary bladder. One hundred and forty-eight patients (126 men and 22 women) were subjected to TUR only (TUR Group). Papillary carcinoma was diagnosed in 104/148 patients, solid or mixed carcinoma in 28, and the histological type was not established in 16 cases. Other 197 patients (164 men and 33 women) were treated by radium implantation after diagnostic TUR (RI Group). Papillary carcinoma was diagnosed in 116/197 patients, solid or mixed carcinoma in 75, and the histological type was not ascertained in 6 cases. The actuarial 5-and 10-yr survival rates were significantly higher in the RI Group (107/195 and 44/195 evaluable patients, respectively) than in the TUR group (55/144 and 8/144 evaluable patients). Local recurrences were seen in 107/143 evaluable patients in the TUR Group and in 35/196 evaluable patients in the RI Group; the recurrences were multiple in 26/107 and 3/35 patients, respectively. Stages higher than T1 were established after recurrence in 32/107 and 6/35 patients, respectively. The patients with recurrences were treated by TUR in 56/107 cases in the TUR Group and in 11/35 cases in the RI Group, while external irradiation was performed in 14/107 and 8/35 patients, respectively. Cystectomy was necessary in 8/107 and 5/35 patients, respectively. The findings indicate the definite advantage of radium implantation over TUR in the treatment of patients with solitary bladder carcinoma. (10 Refs) (In DUT)

20. METHOTREXATE AS SALVAGE OR ADJUNCTIVE THERAPY FOR PRIMARY INVASIVE CARCINOMA OF A BLADDER.

Oliver RT
Inst. Urology, Shaftesbury Ave., London WC2, England
Cancer Treat Rep; 65(Suppl1):179-181 1981

A Phase II study of methotrexate (MTX) treatment of recurrent primary invasive tumors of the bladder is reported. The incidence of measurable response is lower than that seen when the drug is used to treat patients with metastatic disease. However, the overall response achieved when durable symptomatic responses are included, and the absence of major side effects, establishes this drug as a good palliative treatment. Results from a pilot study giving MTX prior to radiotherapy demonstrate that it is possible to combine the two treatments without increasing toxicity. The early results from this study were better than a previously treated historical control series and justify evaluation of adjuvant chemotherapy with MTX in a prospectively randomized trial. (Author abstract) (5 Refs)

21. METHOTREXATE IN ADVANCED BLADDER CANCER.

Turner AG
Dept. Urology, Peterborough Dist. Hosp., Thorpe Road, Peterborough, PE3 6DA, England
Cancer Treat Rep; 65(Suppl1):183-186 1981

Over a period of 9 yr (1970 to 1979), 64 patients with advanced local or metastatic bladder cancer were treated with methotrexate by one of three regimens. Response rates of 50% and over were noted with two of the three regimens studied. The response rate was greater for metastatic disease (44%) than for local disease (16%). Toxicity at the dosage used as minimal provided renal function was satisfactory. (Author abstract) (16 Refs)

22. ORAL METHOTREXATE THERAPY FOR MULTIPLE SUPERFICIAL BLADDER CARCINOMATA.

Hall RR, Herring DW, McGill AC, Gibb I
Freeman Hosp., Newcastle upon Tyne NE7 7DN, England
Cancer Treat Rep; 65(Suppl1):175-178 1981

Patients with frequency recurring multiple class T1 bladder carcinomata have been treated with methotrexate (MTX) given as 50 mg in syrup every wk. In 16 of 17 patients the frequency and number of tumor recurrences have been reduced. Measurement of MTX levels in the urine confirms that this dose of drug yields concentrations that are thought to be cytotoxic for at least 24 hr. (Author abstract) (4 Refs)

23. PATHOLOGIC EFFECTS OF PRE-CYSTECTOMY THERAPY WITH COMBINATION INTRA-ARTERIAL DOXORUBICIN HYDROCHLORIDE AND LOCAL BLADDER HYPERTHERMIA FOR BLADDER CANCER.

Jacobs SC, Lawson RK
Dept. Urology, Medical Coll. Wisconsin, Milwaukee, WI
J Urol; 127(1):43-47 1982

Nine patients with bulky pelvic bladder cancer underwent combination doxorubicin hydrochloride hypogastric artery infusion and local bladder hyperthermia as a preoperative adjunct to radical cystectomy in a Phase I study. Pathologic examination of the cystectomy specimens showed extensive tumor necrosis on the bladder luminal side, with a gradient of tumor destruction to viable tumor on the bladder serosal surface in eight of the nine bladders. Normal portions of the bladder showed minor changes in the urothelium, marked submucosal edema and hyperemia, and viable detrusor muscle. One bladder showed no viable tumor and fibrosis of the entire bladder wall. Adjunctive preoperative hypogastric artery infusion of doxorubicin hydrochloride/bladder hyperthermia is safe, well tolerated and merits further study to determine the upper limits of safety of doxorubicin hydrochloride and hyperthermia temperature. (Author abstract) (24 Refs)

24. LOCAL CHEMOTHERAPY OF BLADDER CARCINOMA WITH MITOMYCIN.

Fluchter SH, Harzmann R, Hlobil H, Erdmann W, Bichler KH
Abteilung fur Urologie, Universitat Tubingen, Calwer Strasse 7, D-7400 Tubingen, W. Germany
Urologe [A]; 21(1):24-28 1982

Forty patients with carcinoma of the bladder (CB) were treated by local instillation of Mitomycin C (MMC). Patients included 17 with three or more recurrences of Stage Ta or T1 tumors 24 mo before MMC treatment (Group 1), 17 with first

occurrences of Stage Ta or T1 CB (Group 2), and 6 with carcinoma in situ (Cis) (Group 3). MMC (20 mg in 40 ml NaCl) was instilled and left in the bladder for 30 min immediately after transurethral electroresection (TUR) and for 60 min on 9 subsequent days. After 6 wk TUR was repeated to determine the presence or absence of tumor; MMC therapy was repeated. Urethrocystoscopy and cytological examination were at 3-mo intervals thereafter for 1 yr. Measurement of serum levels of MMC 30 min after instillation showed 1.13 nanog (ng)/ml for Group 1, 5.25 ng/ml for Group 2, and 14.65 for Group 3, indicating that absorption of MMC was increased with increasing tumor surface area. None of the concentrations measured were toxic. Serum MMC was not significantly higher in patients with perforations of the bladder wall produced by TUR. Tumors recurred in 7/34 patients in Groups 1 and 2 within an av 23.4 mo; no tumor progression was noted in these groups. Twelve patients in Group 1, 15 in Group 2, and all 6 in Group 3 were free of tumor at time of report. Chemical cystitis in the area of resection occurred in 18 cases. Treatment was not interrupted in any cases. Results indicate that MMC is of use in preventing implantation of tumor cells and for curative therapy of Cis or precursors of Cis. (28 Refs) (In GER)

25. TRANSCATHETER INTRAARTERIAL INFUSION OF CHEMOTHERAPY IN ADVANCED BLADDER CANCER.

Wallace S, Chuang VP, Samuels M, Johnson D
Dept. Diagnostic Radiology, Univ. Texas System Cancer Center, M. D. Anderson Hos p. and Tumor Inst., Houston, TX, 77030
Cancer; 49(4):640-645 1982

Bilateral internal iliac artery infusion of chemotherapeutic agents in patients with advanced bladder carcinoma, Stage D, resulted in a 50% response or greater in 9 of 15 patients with a median survival, thus far, of 52 wk. Hematuria was controlled in 8 of 10 patients, and pain was relieved in 12 of 15 patients. Three additional patients were treated as adjuvants after their residual tumor was removed surgically or irradiated before chemotherapy. Cis-diamminedichloroplatinum (CDDP) was infused at a dose of 80-120 mg/m2 over a 24-hr period. When CDDP failed or in the presence of impaired renal function, a combination of 5-fluorouracil (5-FU) infused intraarterially while Adriamycin and mitomycin C were delivered intravenously, salvaged two patients. Complications were tolerable, consisting of transient acute tubular necrosis in two patients, a lower extremity embolus in one, and skin reactions due to 5-FU in two patients. (Author abstract) (19 Refs)

26. CONCEPTS IN CAUSALITY: CHEMICALLY INDUCED HUMAN URINARY BLADDER CANCER.

Lower GM
Center Human Systems, Inst. Environmental Studies, Univ. Wisconsin, WARF Building, 610 Walnut St., Madison, WI, 53706
Cancer; 49(5):1056-1066 1982

A significant portion of the incidence of human urinary bladder cancer can be attributed to occupational and cultural (tobacco smoking) situations associated with exposures to various arylamines, many of which represent established human carcinogens. A brief historical overview of research in bladder cancer causality indicates that the identification of causal agents and causal mechanism has been approached and rests upon information gathered at the organismal (geographical/historical), cellular, and molecular levels of biologic organization. This viewpoint speaks of a natural evolution within the biomedical sciences; a natural evolution from descriptive approaches to mechanistic approaches; and a natural evolution from more or less independent discipline-oriented approaches to hierarchically organized multidisciplinary approaches. Available information relevant to bladder cancer causality can be readily integrated into general conceptual frameworks to yield a hierarchial view of the natural history of urinary bladder cancer, a view consistent with contemporary natural systems and information theory and perhaps relevant also to other chemically induced epithelial cancers. Such frameworks are useful in appreciating the spatial and temporal boundaries and interrelationships in causality and the conceptual interrelationships within the biomedical sciences. Recent approaches in molecular epidemiology and the assessment of relative individual susceptibility to bladder cancer indicate that such frameworks are useful in forming hypotheses. (Author abstract) (62 Refs)

27. CARCINOMA IN DIVERTICULUM OF THE FEMALE URETHRA.

Tines SC, Bigongiari LR, Weigel JW
Dept. Diagnostic Radiology, Univ. Kansas Coll. Health Sciences and Hosp., Rainbow Blvd. at 39th St., Kansas City, KS, 66103
AJR; 138(3):582-586 1982

Carcinoma in diverticulum of the urethra in two women (56 and 71 yr old) is reported. Both tumors were adenocarcinoma of the clear-cell type. The younger patient underwent radical cystectomy, urethrectomy, pelvic lymphadenectomy, partial vaginectomy, and creation of an ileoconduit. The elder patient was treated by external beam radiation. Thirty-seven previously confirmed cases are reviewed. (44 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

28. TRANSRECTAL FINE-NEEDLE ASPIRATION BIOPSY FOR CYTOLOGIC DIAGNOSIS AND GRADING OF PROSTATIC CARCINOMA.

Willems JS, Lowhagen T
Div. Cytology, Dept. Tumour Pathology, Karolinska Hosp., S-104 01 Stockholm, Sweden
Prostate; 2(4):381-395 1981

The equipment and techniques used for fine-needle aspiration biopsy (FNAB) of the prostatic carcinoma (PC) are described, and the cytologic findings are discussed and illustrated. Accuracy is very dependent on the skill of the examiner and cytopathologist. Cytologic grading of PC into well, moderately, and poorly differentiated types is correlated significantly not only to histopathologic grading, but also to clinical stage, response to hormonal therapy and survival. Some later series of published cases show a less favorable correlation between cytological diagnosis and that obtained with FNAB than earlier studies. Therapeutic procedures and choices usually made at the Karolinska Hospital, where FNAB has replaced almost totally other types of biopsies for suspected PC, are discussed. (22 Refs)

29. ADENOSIS OF THE PROSTATE: A DYSPLASTIC LESION THAT CAN BE CONFUSED WITH PROSTATE ADENOCARCINOMA.

Brawn PN
Dept. Surgical Pathology, McLaren General Hosp., Flint, MI, 48502
Cancer; 49(4):826-833 1982

A 10-year period, 1966 through 1975, provided 2,842 prostate specimens at The Wesley Medical Center. These specimens were classified as (1) adenocarcinoma, (2) adenosis, or (3) hyperplasia. During a follow-up period of 5-15 years (average 7.7 years), prostate carcinoma developed in 7 of 108 patients (6.5%) with adenosis. During the same follow-up period prostate carcinoma developed in at least 84 of 2,263 patients (3.7%) with hyperplasia. Adenosis is considered to be a dysplastic lesion because patients with histologic lesions limited to adenosis have approximately the same likelihood of prostate carcinoma developing as patients with hyperplasia. (Author abstract) (15 Refs)

30. EXTERNAL BEAM RADIOTHERAPY FOR PALLIATION OF PAIN FROM METASTATIC CARCINOMA OF THE PROSTATE.

Benson RC, Hasan SM, Jones AG, Schlise S
Dept. Urology, Mayo Clinic, Rochester, MN, 55905
J Urol; 127(1):69-71 1982

Radiotherapy often is used for palliation of bone pain from metastatic cancer of the prostate, but an objective evaluation of its efficacy in a large series of patients is unavailable. We report the results of external beam irradiation in 62 patients who had bone pain secondary to stage D carcinoma of the prostate. The variables used to judge pain before and after radiotherapy included subjective evaluation of pain, status of activity and quantitation of analgesic use. Complete relief of pain was achieved in 26 patients (42%), partial relief in 22 (35%), and no relief in 14 (23%). On the basis of our experience, external beam irradiation is useful palliative therapy for pain from metastatic cancer of the prostate. (Author abstract) (7 Refs)

31. RADIOACTIVE SUBSTANCES (32P AND 89SR) IN TREATMENT OF PAIN IN CASES OF OSSEOUS METASTASES.

Flamm J, Burkert S
Urologische Abteilung, Wilhelminenspital der Stadt Wien, Montleartstrasse 37, A-1171 Wien, Austria
Z Urol Nephrol; 74(11):801-806 1981

Twenty-two patients (21 men, av age 69.8 yr and 1 woman, age 76 yr) with pain due to inoperable osseous metastases (OM) were treated with radioactive compounds. OM originated from prostatic carcinoma (PC) in all of the men and from carcinoma of the renal pelvis in the woman. Four patients received 32P (3 mCi iv 3x at 2-wk intervals); 18 patients received 89Sr (single dose of 1 mCi iv). Of PC cases, 3 were tumor Stage T3, 13 were Stage T4 without lymph node metastases (LNM), and 5 were Stage T4 with LNM; 7 were differentiated adenocarcinoma, 9 were undifferentiated adenocarcinoma, and 5 were solid anaplastic tumors. The most common locations of OM were the spinal column (29 OM), pelvis (15 OM), and ribs and sternum (13 OM); two cases involved the entire skeletal system. All patients had been pretreated with estradurin, progynon, or honvan. Reduction of pain was achieved by 32P in 2/4 cases, including complete elimination of pain in 1 case. Reduction of pain was achieved by 89Sr in 8/10 cases, including complete elimination of pain in 4 cases. Overall response rate to radioactive compounds was 46%. Use of 32P or 89Sr for relief of pain due to OM is recommended. (13 Refs) (In GER)

32. THERAPY OF HORMONE INDEPENDENT PROSTATIC CANCER: SUMMARY OF THE CHEMOTHERAPY.

Okada K, Obata K
Dept. Urology, Faculty Medicine, Kyoto Univ., Kyoto, Japan
Hinyokika Kiyo; 27(10):1331-1334 1981

Carcinoma of the prostate is known to be one of the malignancies with much hazard for chemotherapy. Thirty-seven patients mostly with hormone independent Stage D carcinoma were collected from seven institutes, which were presented at the 4th Annual Meeting on Chemotherapy of Urological Cancer. Although shortage of number of cases does not allow us to get to conclusions, cyclophosphamide and cis-platinum are supposed to be effective agents as it has been previously reported in literature. Special emphasis was placed on early decision of chemotherapy when the disease was judged to be refractory from proceeding endocrine therapy. (Author abstract) (6 Refs) (In JPN)

33. CHEMOTHERAPY IN ADVANCED CARCINOMA OF THE PROSTATE (STAGE C AND STAGE D).

Honda N, Obata K, Natsume H, Sakata T, Ito H
Dept. Urology, Nagoya 1st Red Cross Hosp., Nagoya, Japan
Hinyokika Kiyo; 27(10):1323-1327 1981

Eight patients with a diagnosis of prostatic adenocarcinoma were treated with such anti-tumor drugs as 5-fluorouracil, cyclophosphamide, mitomycin C, cis-diamminedichloroplatinum or peplomycin. Three of eight cases were hormone-resistant and the other four acquired side-effects of cardiovascular disease during estrogen therapy and were forced to cease hormone therapy. Subjective response, ie, pain relief (85.9%), improvement of dysuria (50%), was recognized. Objective response, ie, improvement of palpation findings of prostate (75%), decrease in elevated serum alkaline phosphate (50%), and serum acid phosphatase (20%) was attained. Hepatomegaly due to liver metastasis reduced and lung metastasis almost disappeared in each one case. (Author abstract) (14 Refs) (In JPN)

34. NEUROLOGIC COMPLICATIONS IN PROSTATIC CARCINOMA.

Campbell JR, Godsall JW, Bloch S
Dept. Internal Medicine, Univ. Nebraska Medical Center, 42nd and Dewey Ave., Omaha, NE, 68105
Prostate; 2(4):417-423 1981

In a search for neurologic complications of prostate carcinoma, all patients with adenocarcinoma of the prostate diagnosed between 1970 through 1979 were retrieved. Among the total of 154 charts reviewed, 90 provided adequate clinical information for complete analysis. Neurologic complications occurred in 19/90 cases, with a mean interval of 5.3 yr from diagnosis to development of symptoms. All patients who developed neurologic symptoms had advanced disease; 18 were stage D, and 1 was Stage C. Neurologic complications included: central origin (4), neuropathic/myelopathic (9), metabolic/paraneoplastic (3), and complications of therapy (3). One of the cases is presented in detail, that of a 65-yr-old patient who presented with hemiplegia. The patient had undergone treatment for adenocarcinoma of the prostate for 8 yr previously. Computerized tomography suggested a tumor mass; a friable hemorrhagic tumor

was confirmed upon craniotomy. The patient responded to chemotherapy with Decadron, Cytoxan, and Megace plus cranial radiation, but later died of an intercurrent infection. (13 Refs)

35. BONE MARROW ACID PHOSPHATASE BY COUNTERIMMUNE ELECTROPHORESIS: PRE-TREATMENT AND POST-TREATMENT CORRELATIONS.

Schellhammer PF, Warden SS, Wright GL, Sieg SM
Dept. Urology, Eastern Virginia Medical Sch., Norfolk, VA
J Urol; 127(1):66-68 1982

The value of bone marrow acid phosphatase in the staging of prostatic cancer has been a controversial issue. A number of investigators have concluded that the enzymatic determinations of bone marrow acid phosphatase are inaccurate because of lack of specificity. The introduction of the immune methods for measuring acid phosphatase has revived interest in the role of immune bone marrow acid phosphatase in pre-treatment staging. Fifty-five patients underwent determination of simultaneous immune bone marrow and serum acid phosphatase before any treatment. While positive values did predict a risk for initial and subsequent metastasis, they could not be used to dictate against definitive therapy. Positive bone marrow values were paralleled by positive serum values and provided no additional staging information. (Author abstract) (13 Refs)

36. A CLINICAL ASSAY FOR PROSTATIC ACID PHOSPHATASE USING CHOLINE PHOSPHATE AS A SUBSTRATE: COMPARISON WITH THYMOLPHTHALEIN PHOSPHATE.

Saini MS, Van Etten RL
(c/o Van Etten) Chemistry Dept., Purdue Univ., West Lafayette, IN, 47907
Prostate; 2(4):359-368 1981

Serum acid phosphatase (AP) activity was measured spectroscopically in samples from patients suffering from prostatic cancer and from unaffected individuals; thymolphthalein monophosphate disodium salt (TMP) and choline-O-phosphate calcium salt (COP) as substrates were compared. The COP test gave different levels of activity compared with the TMP test in sera of normal individuals or non-prostatic cancer patients, but when used with PC patients the test had a 98% correlation with the TMP test. There was slightly greater random experimental error with the COP test. The COP test represents an acceptable alternative to the TMP test, and is less expensive to perform than either TMP or radioimmunoassay, although it is not as sensitive as the latter procedure. (51 Refs)

37. IMMUNOPEROXIDASE LOCALIZATION OF PROSTATIC ACID PHOSPHATASE IN PROSTATIC CARCINOMA WITH SARCOMATOID CHANGES.

Ordonez NG, Ayala AG, Von Eschenbach A, Mackay B, Hanssen G
Dept. Pathology, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
Urology; 19(2):210-214 1982

Immunoperoxidase staining of tissue for prostatic acid phosphatase has been useful in confirming the prostatic origin of metastatic deposits. This technique was used on the prostate tumors of two patients to differentiate between a true carcinosarcoma and a pure epithelial carcinoma with sarcomatoid changes. Positive staining for prostatic acid phosphatase in both the sarcomatoid element, as well as the area of well-differentiated carcinoma, confirmed the common epithelial cell origin of th ese components. Electron microscopy further confirmed these findings by demonstrating desmosomes in the sarcomatoid areas. Although each type of tumor is rare, differentiation between true carcinosarcomas and true carcinomas with sarcomatoid changes is important to elucidate further their different clinical behaviors and responses to therapy. (Author abstract) (13 Refs)

38. THE USE OF SERUM ISOENZYMES OF ALKALINE AND ACID PHOSPHATASE AS POSSIBLE QUANTITATIVE MARKERS OF TUMOR LOAD IN PROSTATE CANCER.

Killian CS, Vargas FP, Pontes EJ, Beckley S, Slack NH, Murphy GP, Chu TM
Dept. Diagnostic Immunology Res., Roswell Park Memorial Inst., Buffalo, NY, 14263
Prostate; 2(2):187-206 1981

The clinical response to therapy in 34 patients with D2 prostate cancer was compared in longitudinal studies with serial bone scan, and serial isoenzymes of alkaline phosphatase (AP) and acid phosphatase (AcP) evaluations. An overall 91%, 85%, and 100% of bone AP (BAP), AcP, and bone scans, respectively, agreed with evaluation of the patients' objective responses. Serial time studies of 64 patients with D2 prostatic cancer with at least five isoenzyme assays performed during the follow-up period were compared with respect to detected metastasis against the time on study. Overall, 85%, 83%, and 50% of serum total AP, BAP, and AcP, respectively, corresponded to the clinically detected metastases. Patients with liver metastasis exhibited a significantly higher mean value of liver AP (LAP) than those without. Eight case histories illustrating the significance of isoenzymes in the management of patients with prostatic cancer are presented. A consistently elevated LAP of more than 3x the upper normal limit may indicate the presence of liver metastasis and a poor prognosis. BAP and LAP levels could be used to estimate bone and liver tumor burden when the levels are in agreement with prostatic AP. Elevation of prostatic AP may precede disease progression by several mo. Erratic variations or suppression of BAP and LAP above normal limits may be associated with other diseases. The levels of these enzymes may be suitable as adjuvant and quantitative biochemical markers of bone and liver metastasis. (45 Refs)

39. CORRELATION OF HISTOCHEMICAL AND BIOCHEMICAL ANALYSES OF ANDROGEN BINDING IN PROSTATIC CANCER: RELATION TO THERAPEUTIC RESPONSE.

Pertschuk LP, Rosenthal HE, Macchia RJ, Eisenberg KB, Feldman JG, Wax SH, Kim DS, Whitmore WF, Abrahams JI, Gaetjens E, Wise GJ, Herr HW, Karr JP, Murphy GP, Sandberg AA
Box 25, 450 Clarkson Ave., Brooklyn, NY, 11203
Cancer; 49(5):984-993 1982

A histochemical technique for the detection of androgen binding in prostatic cancer was performed on specimens from 108 patients and compared with a biochemical method in a double blind study of 77. Statistical analyses showed a significant agreement between the two assay systems for the qualitative and quantitative presence or absence of specific androgen binding, as well as for the subcellular localization of binding in nucleus and/or cytoplasm. Although the number of cases studied was too small for statistical analysis, there appeared to be good correlation between histochemical androgen binding results and clinical response, or lack of response to hormonal manipulation in 20 patients with Stage C and Stage D carcinoma.

No correlation was evident between androgen binding and tumor grade or clinicopathologic stage of disease by either histochemistry or biochemistry. (Author abstract) (38 Refs)

40. CIRCADIAN ASPECTS OF SERUM PROLACTIN AND TSH LOWERING BY BROMOCRIPTINE IN PATIENTS WITH PROSTATIC HYPERTROPHY.

Tarquini B, Halberg F, Seal US, Benvenuti M, Cagnoni M
(c/o Seal), Veterans Admin. Hosp., Building 29, Room 207, Minneapolis, MN, 55417
Prostate; 2(3):269-279 1981

Nineteen patients (59-84 yr old) with benign prostatic hypertrophy were divided into four groups and treated with bromocriptine mesylate (BCM: 2.5 mg po) at 1, 7, 13, and 19 hr after awakening (HAA), which corresponded to 6 am, noon, 6 pm and midnight, local time. Groups were tested in October, November January, and March. BCM decreased serum prolactin at three of the four test times. for thyroid stimulating hormone (TSH) there was a decrease following BCM administration at 13 and 19 HAA. Furthermore, a circannual rhythm of both prolactin and TSH levels was demonstrated, but could not be statistically controlled due to study duration (5 mo). Confusing results of previous work may be explained by lack of correction for natural rhythms of prostatic hormone levels; future work must control for both circadian and circannual rhythms. (27 Refs)

41. PROSTATE ANTIGEN: A NEW POTENTIAL MARKER FOR PROSTATIC CANCER.

Wang MC, Papsidero LD, Valenzuela LA, Murphy GP, Chu TM
Dept. Diagnostic Immunology Res., Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
Prostate; 2(1):89-96 1981

A prostate-specific antigen (PA) which is distinct from prostatic acid phosphatase (Paph) and has potential diagnostic value is described. Immunoelectrophoresis has demonstrated the presence of PA in prostatic tissues and seminal plasma (0.15-0.45 nanog/g and 0.4-1.8 nanog/g, respectively) and in cultured human prostatic carcinoma cells and spent culture fluid from these cells. Purification of PA from prostatic tissue and seminal plasma is described. PA from prostatic tissue has a mol wt of 33,000-34,000 and an isoelectric point of about 6.9 (one isomer). PA is highly immunogenic and is not immunologically related to Paph. PA was detected in 17/219 patients with advanced prostatic cancer and in none of 20 normal adults, 20 males more than 55 yr old, and 175 nonprostatic cancer patients. PA appears to polymerize o r associate with other proteins in the serum and can be released into the circulation from cancerous prostatic tissues. An enzyme-linked immunosorbent assay of PA is described. No PA was found in sera of 17 normal females and 25 female cancer patients; less than 0.1-2.6 nanog/ml was found in 51 normal males. Elevated values of PA were found in 13/19 patients with benign prostatic hyperplasia and in 5/8 patients with prostatic cancer of Stage A, 27/34 of Stage B, 43/56 of Stage C, and 296/344 of Stage D. Elevation of serum PA may be an early warning sign of prostatic abnormality, justifying additional examination procedures. Simultaneous determination of PA and Paph is recommended. (21 Refs)

42. A SEROLOGIC APPROACH TO THE DEFINITION OF HUMAN PROSTATIC CARCINOMA ANTIGENS.

Webb KS, Ware JL, Parks SF, Paulson DF
Duke Univ. Medical Center, Box 3062, Durham, NC, 27710
Prostate; 2(4):369-380 1981

IgG from 16 patients with prostatic carcinoma (PC: 4 with early stage (A-B) carcinoma, the rest with metastatic disease), was immobilized with hydrated Sepharose protein A, and exposed to radiolabeled antigens from several sources in immunoaffinity experiments. Acid eluate fractions showing greatest radioactivity were characterized by sodium dodecyl sulfate-polyacrylamide gel electrophoresis. Humoral reactivity of patients with PC apparently is not correlated with disease stage. Sequential adsorption analyses showed that many of the antigens capable of evoking a humoral antibody response in PC patients are neither organ-specific nor prostate tumor-associated. All antigens detected in primary surgical tumor extracts by PC patient humoral antibody were also detected in mouse-supported human prostatic adenocarcinoma cell line PC3 extracts. Preliminary results indicate that prostatic carcinoma patient serorecognition may be directed either toward altered histocompatibility antigens or toward antigens physically associated with histocompatibility complex antigens. (21 Refs)

43. HUMAN PROSTATE SPECIFIC AND SHARED DIFFERENTIATION ANTIGENS DEFINED BY MONOCLONAL ANTIBODIES.

Frankel AE, Rouse RV, Herzenberg LA
Dept. Oncology, Stanford Univ., Palo Alto, CA, 94305
Proc Natl Acad Sci USA; 79(3):903-907 1982

Splenic lymphocytes of BALB/c mice immunized with membrane-enriched fractions of human benign prostatic hyperplasia tissues were fused with the NS-1 light chain-secreting murine myeloma cell line. This generated hybridoma cultures that secreted immunoglobulins reactive in solid-phase radioimmunoassays with membrane preparations of prostatic tissues but not with membrane preparations of apparently normal human liver, spleen, thymus, or erythrocytes. After further screening of immunoglobulin reactivities and cloning of cultures, eight monoclonal antibodies were chosen that demonstrated reactivity w ith human prostate tissues. These monoclonal antibodies could be placed into at least three major groups - epithelium-specific, polyepithelial, and stroma-specific - on the basis of differential binding to the surfaces of various component cells in the prostate and other epithelia. Two antibodies defined unique protein antigens specific for prostate epithelia that were not crossreactive with prostatic acid phosphatase or the recently described 'prostatic antigen.' These antibodies also detected antigens on malignant prostate tissues as well as other malignant tissues. Four antibodies defined three unique polyepithelial protein antigens (two of the antibodies were different isotypes defining the same protein). Each of the polyepithelial antigens was expressed on a different spectrum of normal epithelial tissues. Two displayed brain tissue crossreactivity, one was present on pancreas, and one was present on platelets. The two antibodies that detected prostatic stromal protein antigens showed different spectra of reactivities. One antibody reacted with apparently all prostatic stromal cells as well as endothelial cells in the prostate and other organs. The other antibody apparently reacted wi'h all prostatic stromal cells as well as myoepithelial and muscle cells in other organs. (Author abstract) (17 Refs)

44. IMMUNOFLUORESCENT IDENTIFICATION OF ANTIBODIES SPECIFIC FOR PROSTATIC ACID PHOSPHATASE.

Ablin RJ
Div. Immunology, Cook County Hosp., Hektoen Inst. Medical Res., Chicago, IL, 60612
Pathology; 13(4):681-684 1981

Antisera demonstrated by precipitation and passive hemagglutination to possess antibodies specific for prostatic tissue-specific acid phosphatase have been employed to localize this isoenzyme in the prostate by indirect immunofluorescence. Antisera specific for prostatic acid phosphatase may permit the immunohistologial localization of this enzyme, thereby serving as a biological marker for metastatic prostatic cancer, where histological and/or clinical staging of the primary tumor remain uncertain. (Author abstract) (27 Refs)

45. IMMUNOLOGIC ASPECTS OF THE PROSTATE.

Lubaroff DM, Reynolds CW, Canfield L, McElligott D, Feldbush T
Dept. Urology, Univ. Iowa, Iowa City, IA, 52242
Prostate; 2(3):233-248 1981

Present knowledge of tumor immunology is reviewed, and recent research results using the Dunning R3327 tumor of the Copenhagen rat as an immunologic model of prostatic adenocarcinoma and continuing work, are described. The R3327 tumor, a well-differentiated adenocarcinoma which will grow into the sc space of the flank or within the prostate is described, and its histological appearance is shown. Earlier results included cryodestruction of the primary R3327 tumor by trocar probe procedure and demonstration of tumor-specific antigens and production of immune responses to them in xenogeneic, allogeneic, a nd syngeneic immunizations. Cell-mediated responses have been successfully demonstrated, including a nonspecific or natural killer activity in lymph nodes, spleen, and peripheral blood. Cryosurgery + BCG have been demonstrated to induce a tumor-protective immune response in the R3327 system. Problems associated with immunotherapy are reviewed, and studies demonstrating reduced immunocompetence in patients with prostatic cancer or benign prostatic disease compared to normal individuals are described. (26 Refs)

46. PROTEINS OF HUMAN URINE. II. IDENTIFICATION BY TWO-DIMENSIONAL ELECTROPHORESIS OF A NEW CANDIDATE MARKER FOR PROSTATIC CANCER.

Edwards JJ, Anderson NG, Tollaksen SL, Von Eschenbach AC, Guevara J
Molecular Anatomy Program, Div. Biological and Medical Res., Argonne Natl. Lab., Argonne, Il, 60439
Clin Chem; 28(1):160-163 1982

A protein series common to the urine and prostatic tissue of 16 of 17 patients with prostatic adenocarcinoma has been identified by high-resolution two-dimensional gel electrophoresis. These proteins, designated PCA-1, have a relative molecular mass in sodium dodecyl sulfate of about 40,000. Analyses of urines from eight age-matched controls, seven patients with other types of urogenital malignancies, two patients with benign prostatic hyperplasia, and five patients with malignancies not associated with the urogenital system failed to show PCA-1 in the patterns. These preliminary findings suggest that this protein should be systematically investigated as a candidate marker for prostatic adenocarcinoma in man. (Author abstract) (23 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

47. NONSEMINOMATOUS GERM-CELL TUMORS OF THE TESTICLE.

van der Werf-Messing B, Hop WC
Rotterdamsche Radio-Therapeutisch Instituut, Rotterdam, The Netherlands
Ned Tijdschr Geneeskd; 125(32):1281-1286 1981

Malignant nonseminomatous testicular germ-cell tumors were diagnosed in 121 patients. Intermediate malignant teratoma (IMT; teratocarcinoma) was diagnosed in 56 patients, undifferentiated malignant teratoma (UMT; embryonal carcinoma) in 65. Stage N0M0 was diagnosed in 53% of the patients with IMT and in 30% with UMT, N1,2M0 in 34% in each group, N3M0 in 5.5% and 9%, N4M0 in 5.5% and 13%, and M1 (pulmonary metastases) in 2% and 15%, respectively. The frequency of lung metastases was higher in the UMT group than in the IMT group at comparable N stages during the follow-up period, and the chance of lung metastasis was significantly lower in the tumor stages T1-2 than T3-4 in the absence of lymph node metastases. The chances of cure after 3 yr were 80% for the patients with IMT and 60% for those with UMT. The tumor stages T1 and T2 and the lymph node stage N0 were found to be favorable prognostic factors. The percentages of patients with favorable prognostic factors were 43% in the IMT group and 24% in the UMT group. The chance of pulmonary metastasis was found to be 9% in the group of patients with favorable prognostic factors and 50% in that of the patients with unfavorable prognostic factors. All patients with favorable prognosis but only approx half of those with unfavorable prognosis were alive at the time of reporting. (7 Refs) (In DUT)

48. BILATERAL PRIMARY GERM CELL TUMORS OF TESTIS.

Hoekstra HJ, Sleyfer DTh, Wobbes T, Koops HS
P.O. Box 30.001, 9700 RB Groningen, The Netherlands
Urology; 19(2):152-154 1982

Bilateral primary germ cell tumors of the testis are rare, but their incidence is likely to rise since the prognosis of metastasized nonseminoma tumors of the testis has improved with polychemotherapy and surgery. Every patient with a tumor of the testis requires lifelong frequent follow-up. Delay in diagnosis and treatment can be prevented. The treatment of bilateral primary germ cell tumors of the testis is highly individual and depends on the histologic diagnosis of the first and the second tumors, metastatic growth, and previous treatment. (Author abstract) (15 Refs)

49. TREATMENT OF TESTICULAR TUMORS ARISING IN PATIENTS WITH PREVIOUS INGUINAL AND/OR SCROTAL SURGERY.

Lanteri VJ, Choudhury M, Pontes JE, Wajsman Z, Beckley S, Murphy GP
(c/o Pontes) Dept. Urologic Oncology,. Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
J Urol; 127(1):58-59 1982

Of 20 patients with testicular tumors that occurred after previous inguinal and/or scrotal surgery, 6 with seminomas were treated with traditional radiation therapy that included the ipsilateral groin, while 14 with nonseminomatous tumors were treated with retroperitoneal lymph node dissection with or

without chemotherapy. No patient suffered inguinal lymph node metastases. Based on the satisfactory results in these patients to date and the lack of subsequent detectable recurrence of tumor, we do not advocate additional treatment to the superficial inguinal lymph nodes and scrotum. (Author abstract) (11 Refs)

50. IMPROVED SURVIVAL RATES AMONG TESTIS CANCER PATIENTS IN THE UNITED STATES.

Li FP, Connelly RR, Myers M
NCI, Landow A521, Bethesda, MD, 20205
JAMA; 247(6):825-826 1982

Mortality rates of testis cancer among US whites declined 34% between 1973 and 1978. The change is attributable to improved therapy for patients with disseminated testis cancer other than seminoma. Thirty-mo survival rates among these patients increased from 22% in 1973 to 1976 to 56% in 1977 to 1979 in nine geographic areas monitored by the Surveillance, Epidemiology, and End Results Program of the National Cancer Institute. (Author abstract) (8 Refs)

51. TESTICULAR CANCER IN CRYPTORCHIDS.

Batata MA, Chu FC, Hilaris BS, Whitmore WF, Golbey RB
Radiation Therapy Dept., Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 49(5):1023-1030 1982

One hundred thirty-seven patients with a history or clinical evidence of cryptorchidism and testicular germinal tumor were treated at our hospital from 1934 to 1976. Cryptorchidism was corrected ipsilaterally or contralaterally in 93 patients with intrascrotal testis cancer when they were from 2 to 42 yr old, either spontaneously (24 patients), by orchiopexy (58 patients), or by hormonal therapy (11 patients). Forty-four cryptorchid patients (uncorrected cases) had either ipsilateral inguinal (24 patients), or abdominal (14 patients), or contralateral intrascrotal tumors (six patients). Tumor histologic types on orchiectomy were pure seminoma in 56 patients, embryonal carcinoma in 41, teratocarcinoma in 37, and pure choriocarcinoma in 3. The five-yr survival rates were similar in the corrected (61%) and uncorrected (63%) cases, and they were higher in patients with pure seminoma (79%) than in patients with germinal carcinomas (50%). The majority (64 of 80) of five-yr survivors received regional lymphatic irradiation in 41 patients with pure seminoma and/or systemic chemotherapy in 23 patients with other germinomas. Since the testicular tumors that developed despite correction of the cryptorchid state were predominantly (72%) germinal carcinomas, unilateral cryptorchidism, which usually is associated with testicular atrophy, should be treated by orchiectomy instead of orchiopexy to prevent ipsilateral carcinogenesis. Cryptorchid patients with testicles that descended late should be observed periodically, especially after the 20-yr latent period, for early detection of cancer. (Author abstract) (23 Refs)

52. NONLYMPHOMATOUS METASTATIC TUMOR TO THE TESTIS.

Werth V, Yu G, Marshall FF
James Buchanan Brady Urological Inst., Johns Hopkins Hosp., Baltimore, MD
J Urol; 127(1):142-144 1982

A patient with pancreatic carcinoma presented with an initial left testicular mass that proved to be metastatic adenocarcinoma of the pancreas. Regional spread of the pancreatic carcinoma may have created venous and lymphatic obstruction with inferior passage of tumor emboli to the testis. A summary of nonlymphomatous secondary tumors of the testis also is presented. (Author abstract) (14 Refs)

TUMORS OF THE PENIS AND SCROTUM

53. PRIMARY SARCOMA OF PENIS.

Weinberger GI, Beckley S, Wajsman Z, Simpson CL
Roswell Park Memorial Inst., Buffalo, NY, 14263
Urology; 19(2):193-194 1982

A case of primary sarcoma of the penis is reported. A very slow growth rate of this tumor was observed and prompted conservative treatment. A review of the literature is included. More cases of penile sarcoma should be reported in order to study the not well-documented natural history of this di sease. (Author abstract) (3 Refs)

54. BASAL CELL CARCINOMA OF THE SCROTUM: A CASE REPORT AND LITERATURE REVIEW.

Greider HD, Vernon SE
Dept. Pathology, St. Francis Hosp., Miami Beach, FL
J Urol; 127(1):145-146 1982

Basal cell carcinoma of the scrotum is a rarely occurring lesion that must be differentiated from the more common squamous cell carcinoma, as well as chronic dermatitis or chronic fungal infection. We report a case of basal cell carcinoma of the scrotum and review the literature. This case serves as a reminder that these lesions do occur on the scrotal skin and that, unlike squamous cell carcinomas, they are curable with simple wide excision. (Author abstract) (10 Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

55. THE STATUS OF INTERVENTIONAL URORADIOLOGY.

Mitty HA, Gribetz ME
Dept. Radiology, Mount Sinai Hosp., One Gustave L. Levy Place, New York, NY, 10029
J Urol; 127(1):2-9 1982

The current status of interventional uroradiology is reviewed with special emphasis on the clinical applications of percutaneous renal procedures, vascular interventional procedures, and biopsy procedures. Percutaneous nephrostomy can be used in the patients with ureteral obstruction secondary to carcinoma. Seldinger technique is used widely for therapeutic embolization of renal carcinoma. The Chiba needle is used successfully for the diagnosis and management of renal masses. (60 Refs)

56. PHASE II EVALUATION OF VM-26 IN PATIENTS WITH METASTATIC TRANSITIONAL CELL CARCINOMA OF THE URINARY TRACT: AN EASTERN COOPERATIVE ONCOLOGY GROUP STUDY.

Qazi R, Elson P, Khandekar JD
Dept. Medicine, Highland Hosp., Soth Ave. at Bellevue Drive, Rochester, NY, 14620
Cancer Treat Rep; 66(2):405-406 1982

The Phase II trial of semisynthetic podophyllotoxin derivative VM-26 was carried out in 40 patients (26 men, 14 women; 52-75 yr old) with disseminated transitional cell carcinoma of the urinary tract. The patients received a 20-or 30-mg/square meter infusions 5x every 3 wk. Of 40 patients, only 2 showed partial response of 1 and 6 mo duration (regression of pulmonary or abdominal metastasis), 6 showed disease stabilization of 2-5 mo duration, and the rest had disease progression. The side-effects of VN-26 included leukopenia, thrombopenia, mild to moderate nausea and vomiting, and transient hypotension. (5 Refs)

57. ADJUVANT THERAPY FOR GENITOURINARY CANCER.

Messing E, DeKernion JB
Dept. Surgery, Div. Urology, 66/134 CHS, Univ. of California Sch. Medicine and Jonsson Comprehensive Cancer Center, Los Angeles, CA, 90024
Surg Clin North Am; 61(6):1331-1346 1981

The treatment of testicular tumors depends on the tumor's histology as well as its clinical stage. Mixed germ cell tumors tend to show the behavior of the most ominous element. Combinations of retroperitoneal lymph node dissection, chemotherapy, resection of known metastases, and regular follow-up with marker assays have greatly improved the prognosis. In patients undergoing transurethral resection of superficial transitional cell carcinoma of the bladder, intravesical thiotepa, mitomycin C, or BCG can reduce the development of recurrences. In patients with invasive tumors, preoperative radiotherapy (RT: 2,000 rads in 5 days) or postoperative treatment with cis-Platinum or methotrexate may improve the results of cystectomy and urinary diversion. The treatment of advanced renal cell carcinomas is still debated. RT is not indicated. If the tumor extends beyond the kidney capsule, nephrectomy provides no more than symptomatic relief. No known chemotherapy significantly affects the course of the disease when metastases are present. In patients undergoing resection of prostate cancer, endocrine therapy (including orchiectomy) seems to meet the criteria for appropriate adjuvant therapy, because of its efficacy against metastases and its minimal toxicity. Hormone therapy can improve the quality of life, although it does not seem to increase survival times. Hormone therapy may be reserved for patients with known dissemination. Clinical trials now in progress may increase the role of cytotoxic therapy in the management of prostate cancer. More information is needed on the optimal timing of adjuvant RT when the tumor extends to the margins of the prostatectomy specimen. (100 Refs)

58. USE OF GRACILIS MUSCULOCUTANEOUS FLAP IN UROLOGIC CANCER SURGERY.

Larson DL, Bracken RB
Dept. Head and Neck Surgery (Section Plastic Reconstructive Surgery), Univ. Texas M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
Urology; 19(2):148-151 1982

The recently increased use of musculocutaneous flaps has revolutionized plastic surgery. The gracilis musculocutaneous flap, complete with its own blood and nerve supply, can be rotated on its vascular pedicle to close safely defects in the lower pelvis. This flap can be especially useful for patients with urogenital cancer when surgery, irradiation, or chemotherapy creates a wound too large for primary closure. (Author abstract) (4 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

59. SINGLE AND SEQUENTIAL COMBINATION INTRAVESICAL CHEMOTHERAPY OF MURINE BLADDER CANCER.

Soloway MS, Nissenkorn I, McCallum LW, Murphy WM
956 Court St., Room 2H22, Memphis, TN, 38163
Urology; 19(2):169-175 1982

We investigated the effectiveness of intravesically administered drugs on the tumor incidence and tumor size in a FANFT-induced animal model for bladder cancer. In the first experiment 106 C3H/He mice were divided into a control and three treatment groups. Therapy consisted of either cis-diamminedichloroplatinum (II) (DDP), mitomycin C, or thiotepa (triethylene thiophosphoramide). There was a reduction in the tumor incidence in all treated groups; this was statistically significant for those receiving mitomycin C (p less than 0.04) and DDP (p less than 0.001). No significant difference in the mean or median tumor wt (an index of tumor volume) between the treated and control groups was found. In a second experiment intravesical combination chemotherapy was compared to single-agent therapy. Animals received either doxorubicin hydrochloride (Adriamycin), mitomycin C, thio-tepa, mitomycin C + doxorubicin, or mitomycin C + thio-tepa. Although there was no significant difference in tumor incidence among the groups with the exception of mice receiving thio-tepa, animals receiving sequential combination chemotherapy had lower mean and median bladder wt suggesting an improved therapeutic effect. (Author abstract) (24 Refs)

60. MONOCLONAL ANTIBODIES TO TWO MOUSE BLADDER CARCINOMA ANTIGENS.

Hellstrom I, Rollins N, Settle S, Chapman P, Chapman WH, Hellstrom KE
Program Tumor Immunology, Fred Hutchinson Cancer Res. Center, Seattle, WA, 98104
Int J Cancer; 29(2):175-180 1982

Carcinomas of the urinary bladder of mice were induced by 3-methyl-cholanthrene or FANFT [(4-5-nitro-2-furyl)-2-thioazolyl formamide]. On transplantation in vivo, tumor lines consisting of well-differentiated transitional-cell carcinomas were established. Some tumors were also explanted in vitro. A rat was immunized with a pool of carcinomas and normal bladder tissue and its spleen cells were hybridized with NS-1 mouse myeloma cells. Supernatants of hybrid cells ('hybridomas') were screened for antibody binding to antigens present in bladder carcinomas but not in normal syngeneic urinary bladder, with cell extracts as targets. Hybridomas that appeared to have the required specificity were cloned, tested further against transitional-cell bladder carcinomas, an anaplastic bladder tumor, rhabdomyosarcomas, a mammary carcinoma, myelomas and lymphomas, and normal adult urinary bladder, kidney, lung, spleen, heart, brain, thymus, and whole embryo. Anti-

body formed by one hybridoma, 2H5, gave significant binding to membranes from five of seven transitional-cell carcinomas but not to membranes from any other tissues. A second hybridoma, IE6, formed antibody to an antigen present in bladder carcinomas and normal liver and, in smaller amounts, in several other normal and neoplastic tissues. Fluorescence microscopy established that both antigens were present at the cell surface of transitional-cell bladder carcinomas. Immunoprecipitation and SDS-polyacrylamide gel electrophoresis were used to identify the target antigens from 125I-labeled cell membrane proteins. The antibody formed by 2H5 was found to identify a protein with a mol wt in the range of 140 kilodaltons, which was detected in transitional-cell bladder carcinoma and, in small amounts, in normal bladder. The molecular nature of the antigen defined by hybridoma IE6 is not known. (Author abstract) (25 Refs)

61. EFFECT OF SURGERY AND ADJUVANT CHEMOTHERAPY ON THE R3327 MAT-LY LU TUMOR.

Kadmon D, Heston WD, Fair WR
Div. Urology, Washington Univ. Sch. Medicine, 4960 Audubon Ave., St. Louis, MO, 63110
Prostate; 2(3):299-307 1981

The R3327 MAT-Ly Lu line is a prostate-derived, anaplastic, hormone independent carcinoma of Copenhagen rats; it is a variant of the R3327-AT tumor that is distinguished by regularly metastasizing via the lymphatics with subsequent development of lung lesions. Age- and weight-matched syngeneic male Copenhagen rats were inoculated sc in the left flank with 0.5 ml tumor cell suspension (1.2 x 10(6) viable cells per animal). Treatments included surgery 1 wk after inoculation (sham surgery in right flank, excision of primary tumor, or excision of primary tumor + regional lymphadenectomy), either with or without 1,2-di(3,5-dioxopiperazin-1-yl)propane (ICRF-159: 30 mg/kg body wt/day), followed by killing and autopsy 25 days after tumor cell inoculation. Of animals undergoing only surgery, 2/30 exhibited no gross histologic evidence of tumor at autopsy and were considered cured; 7/29 of those receiving both surgery and subsequent ICRF-59 were also cured. When compared to controls receiving sham surgery and placebo, groups of rats given sham surgery + ICRF-159, tumor excision + lymphadenectomy, or ICRF-159 + tumor excision + lymphadenectomy, all had significantly smaller numbers of lung metastases. The combination of surgery and chemotherapy was more effective in treating the R3327 MAT-Ly Lu tumor than either method alone. (14 Refs)

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GENITO-URINARY CANCERS

Diagnosis, Treatment

SERIES CT16 No. 82/08 AUGUST, 1982

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TUMORS OF THE KIDNEY (GENERAL)

1. COMPUTER TOMOGRAPHY AND ANGIOGRAPHY IN RENAL ANGIOMYOLIPOMA.

Kolmannskog F, Kolbenstvedt A, Nakstad PH, Aakhus T
Dept. Diagnostic Radiology, Rikshospitalet, Oslo, Norway
Acta Radiol [Diagn] (Stockh); 22(6):635-639 1981

Computer tomography and nephroangiography were performed in five patients with angiomyolipoma of the kidneys. CT was characteristic in all cases by demonstrating areas of fat in the tumor, and the extent of the neoplasm could be assessed preoperatively. Nephroangiography was of value as a preoper-

ative demonstration of the vascular anatomy. In one case with a hemorrhage which nearly masked the fat component at CT, angiography added diagnostic information. (Author abstract) (9 Refs)

2. COMPUTED TOMOGRAPHY, ANGIOGRAPHY AND ULTRASOUND IN STAGING OF RENAL CARCINOMA.

Karp W, Ekelund L, Olafsson G, Olsson A
(c/o Ekelund) Central Dept. Diagnostic Radiology, Univ. Hosp., S-221 85 Lund, Sweden
Acta Radiol [Diagn] (Stockh); 22(6):625-633 1981

Preoperative evaluation of the extent of the renal tumor is of value in determining the prognosis of the patient and the most suitable therapy. CT and angiography were reviewed in 27 cases of renal carcinoma to evaluate tumor involvement of lymph nodes, renal vein, vena cava, and the perinephric space. In 26 of these cases the ultrasound examination was similarly reviewed. Comparison of ultrasound, CT, and angiography demonstrated that staging of renal tumors with ultrasound is mainly limited by its inability to demonstrate extrarenal infiltration. Both CT and ultrasound proved reliable in the demonstration of tumor spread to the renal vein and inferior vena cava. CT and angiography were equally effective in the evaluation of tumor extension; since CT is easier to perform, less invasive and less time consuming than angiography it should be the primary method for staging of renal neoplasms. Angiography offers detailed information on the vascular supply of the tumor important for the choice of surgical approach and should be performed only on special indications. (Author abstract) (22 Refs)

3. EXFOLIATIVE CYTOLOGIC DIAGNOSIS OF RENAL CELL CARCINOMA.

Xia T, Ma W, Cao Y
Inst. Urology, Beijing Medical Coll., Beijing, People's Republic of China
Zhonghua Miniao Waike Zazhi; 2(1):9-13 1981

Results of a comparative study between the pathologic morphology and urinary exfoliative cytology of renal cell carcinoma are described for 24 cases (17 men, 7 women; 35-69-yr-old). The positive rate of exfoliative cytologic diagnosis in this series was 58%. The relation of tumor location, macroscopic hematuria, renal mass, pathologic types and pathologic grades to positive rates are discussed. Authors consider exfoliative cytology to be of practical value in the diagnosis of renal cell carcinoma. (12 Refs) (In CHI)

4. ON OPERATIVE THERAPY OF MALIGNANT RENAL TUMORS: A REPORT OF EXPERIENCES (1969-1976).

Flamm J
Urologische Abteilung, Wilhelminenspital der Stadt Wien, Montleartstrasse 37, A-1171 Wien, Austria
Wien Med Wochenschr; 132(3):49-53 1982

Results of lumbodorsal (LD) and transperitoneal (TP) tumor nephrectomy techniques were compared in 51 patients (24 men, 43-78 yr old, av age 59.5 old and 27 women, 40-77 yr old, av age 59.1 yr) with typical clear-cell hypernephroid renal carcinoma. Nephrectomy was LD in 19 cases and TP in 32 cases. Tumors involved the right kidney in 27 cases and the left kidney in 24 cases. Twenty-six tumors were Stage T2 and 25 were T3. Of 19 tumors removed by LD nephrectomy, 16 were Stage T2 and 3 were Stage T3. Five-yr survival rate (5-SR) was 49% overall. Among patients treated by the LD method 5-SR was 52.6% (62% for T2 tumors and 0% for T3 tumors). 5-SR was 67% for noninvasive tumors and 37% for invasive tumors. Among patients treated by the TP method 5-SR was 53% (70% for T2 tumors and 36% for T3 tumors). 5-SR was 77.5% for noninvasive tumors and 44% for invasive tumors. Prognosis was evidently unfavorably affected by large tumor size and by invasiveness of the tumor. With large and invasive tumors TP nephrectomy produced better survival than LD nephrectomy. TP nephrectomy reduces the risk of understaging of tumors and overlooking local invasion compared with LD nephrectomy. (16 Refs) (In GER)

5. THE IMMEDIATE AND REMOTE RESULTS OF SURGICAL TREATMENT OF RENAL ADENOCARCINOMAS. DISCUSSION OF TWO HUNDRED AND TWENTY-TWO CASES.

Richard F, Carvalho R, Le Gall E, Chatelain C, Kuss R
(c/o Kuss), Hopital de la Pitie, 83, boulevard de l'Hopital, 75634 Paris Cedex 13, France
Sem Hop Paris; 58(10):591-595 1982

A series of 222 cases of adenocarcinoma of the kidney are discussed. Many of these cases involved extended carcinomas (stages III and IV, 65%; stage IV, 41%). The surgical procedures used included 204 extended nephrectomies, 4 partial nephrectomies and 14 laparotomies for the exploration of unextirpative cancers. The mortality rate was 4.5% and the morbidity rate, 22%. One hundred sixty-eight patients were followed up over a long period after an extended nephrectomy (8 died postoperatively and contact was lost with 28 patients after their operations). The 5-yr survival rate was 71% for stage I, 77% for stage II, 48% for stage III and 23% for stage IV. (Author abstract) (46 Refs) (In FRE)

6. CYTOREDUCTIVE SURGERY AND SYSTEMIC BACILLUS CALMETTE-GUERIN THERAPY IN METASTATIC RENAL CANCER: A PHASE II TRIAL.

Morales A, Wilson JL, Pater JL, Loeb M
Dept. Urology, Queen's Univ., Victory IV, Kingston General Hosp., Kingston, Ontario K7L 2V7, Canada
J Urol; 127(2):230-235 1982

A phase II trial has been conducted to determine the effect upon survival of cytoreductive surgery (nephrectomy) and adjuvant active immunotherapy (bacillus Calmette-Guerin) in patients with stage IV renal cancer. A total of 20 patients underwent removal of the primary tumor and received bacillus Calmette-Guerin therapy (adjuvant group). The results were compared to those obtained in 20 historical controls treated with conventional methods (hormones, chemotherapy and radiotherapy with or without nephrectomy) and 16 concurrent controls. All patients in the historical control group were dead within 4 yr after the diagnosis of metastases. Seven patients (35%) in the adjuvant group were alive 2 to 5 yr after documentation of metastatic disease and onset of therapy. The ratio of observed to expected deaths in the adjuvant group was 0.59 compared to 1.6 in historical controls. This superior survival was statistically significant (p less than 0.01). A difference in survival between the adjuvant group and concurrent controls also was present but was not statistically significant (0.10 less than p less than 0.20). Other factors expected to influence survival were investigated. We found that in addition to bacillus Calmette-Guerin therapy a prolonged interval free of disease and better performance status had a better prognosis. Location of metastases, nephrectomy, age and sex are of no significant prognostic value. Definitive answers on the therapeutic value of bacillus Calmette-Guerin and the influence on survival of various bio-

logical factors can only be provided by large, controlled, randomized and stratified (phase III) trials. (Author abstract) (32 Refs)

7. TRANSPLANTATION IN PATIENTS WITH A HISTORY OF RENAL CELL CARCINOMA: LONG-TERM RESULTS AND CLINICAL CONSIDERATIONS.

Spees EK, Light JA, Smith EJ, Mostofi FK, Oakes DD
Div. Transplantation Surgery, Baltimore City Hosp., 4940 Eastern Ave., Baltimore, MD, 21224
Surgery; 91(3):282-287 1982

We report four cases of renal transplantation after prior incidental removal of renal cell carcinomas. Follow-up periods ranged from 21 mo to 8 yr. Our experience provides the first long-term follow-up of such cases and indicates that the overall prognosis is favorable when asymptomatic renal adenocarcinomas are removed prior to renal transplantation. The period between nephrectomy and renal transplantation ranged from 8 hr to 30 mo. Three patients had prolonged tumor-free survival, and one died from a widely disseminated second adenocarcinoma 21 mo after transplantation. (Author abstract) (30 Refs)

8. RESULTS OF PREOPERATIVE TELECOBALT IRRADIATION OF MALIGNANT RENAL TUMORS.

Eberhardt HJ, Strietzel M, Raatzsch H, Schorcht J, Hackel W, Kelly U, Voigtmann L
Radiologische Klinik, Medizinische Akademie 'Carl Gustav Carus', Fetschestr. 74, DDR-8019 Dresden, E. Germany
Radiobiol Radiother (Berl); 22(6):717-725 1981

The results of preoperative and postoperative telecobalt irradiation (PRE-TCI and POS-TCI, respectively) were compared in patients (57% men and 43% women, av age 56 yr) with malignant renal tumors. Tumors were Stage T1 (2%), T2 (8%), T3 (72%), or T4 (19%), with 0-2 lymph node metastases and no distant metastases. Hypernephroid carcinomas accounted for 91% of the cases. Short-term PRE-TCI (4 x 5 Gray on 4 successive days) was administered to 100 patients. Procedures involved regular consultation between urologists and radiologists, supervoltage radiotherapy, renal angiography, and preliminary transperitoneal li gature of renal blood vessels. POS-TCI (28 x 1.8 Gray, 5x/wk, total dose 50 Gray) was administered to 100 patients. Observation of 44 POS-TCI patients and 30 PRE-TCI patients lasted 5 yr. The 5-yr survival rate (5ysr) for both groups was 59%, compared with previously reported 31%. The difference was attributed to close cooperation between urologists and radiologists and to exact angiographic diagnosis. The 5ysr was 55% for POS-TCI patients and 67% for PRE-TCI patients. This difference was not significant. Telecobalt irradiation combined with neutron therapy produced a higher 5ysr (75%) than telecobalt irradiation alone (64%). (9 Refs) (In GER)

9. CURRENT THERAPY FOR RENAL CELL CARCINOMA.

McDonald MW
Dept. Urology, Univ. Texas M. D. Anderson Hosp. and Tumor Inst., Houston, TX
J Urol; 127(2):211-217 1982

Radical nephrectomy, lymphadenectomy, adjunctive radiotherapy, tumors in the vena cava, bilateral renal carcinoma or carcinoma in a solitary kidney, therapy for disseminated disease, hormonal therapy, chemotherapy, immunotherapy, infarction and nephrectomy, palliative therapy, and future prospects of therapy for renal cell carcinoma are reviewed. Radical nephrectomy is the logical surgical procedure for renal cell carcinoma because in 45% of the patients the tumor extends into the perinephric tissues. Five-yr survival rates for patients undergoing radical nephrectomy decrease with increasing stage of the cancer. Studies indicate that lymphadenectomy is not mandatory at the time of radical nephrectomy and that routine use of neither preoperative nor postoperative radiotherapy is supported. There are advantages and disadvantages to preoperative occlusion of the renal artery. While various methods exist to surgically manage tumors in the vena cava, patients with tumor extension into the vena cava and distant metastases at diagnosis should be treated non-surgically. Patients with single metastasis should be treated with surgery directed at the primary tumor and metastasis. Palliative nephrectomy for patients with advanced renal cell carcinoma is rarely necessary, but studies have shown its effectiveness in some cases. Hormonal agents may also be considered for patients with advanced renal cell carcinoma, but chemotherapy has yet to have a significant impact on metastatic renal cell carcinoma. Infarction of the tumor-bearing kidney prior to nephrectomy should be considered for patients with metastatic disease at the time of original diagnosis. (127 Refs)

10. CONTRIBUTION ON DIAGNOSIS AND THERAPY OF IATROGENIC COMPLICATIONS AFTER COMBINED THERAPY OF MALIGNANT RENAL TUMORS.

Vieweg G, Frohlich D
Chirurgische Klinik, Klinikum Leninstrasse, BKH Karl-Marx-Stadt, Zeisigwaldstrasse 101, 9071 Karl-Marx-Stadt, E. Germany
Z Aerztl Forthild; 75(22):1045-1047 1981

Diagnosis and therapy of complications following combined therapy of renal tumor s are discussed. A total of 174 patients underwent radical surgery for malignant renal tumors (89% hypernephroid carcinoma, 6% carcinoma of the renal pelvis, 2% mixed-type tumors, 1% sarcomas, and 2% of undetermined type). Of these patients, 20 underwent postoperative conventional deep x-ray therapy, and 154 underwent telecobalt therapy. In most cases large anterior, posterior, and lateral radiation fields were employed with a rad equivalent therapeutic (ret) dose of 1230-1440. Five patients were treated by telecobalt pendulum irradiation (TPI) with a dose of 1650 ret. Mild side effects (loss of appetite, nausea, and vomiting) were noted in 19.5% of cases. Serious side effects occurred in two patients who underwent TPI. After a latency period of 6-14 mo, major alterations in the region of the duodenojejunal flexure and the left flexure of the colon developed, producing symptoms of intestinal obstruction. Pathological changes consisted of chronic, progressive, nonspecific inflammation with ulceration and necrosis, leading to formation of fistulae and abscesses. Surgical reconstruction was accomplished by lateral retrocolic duodenojejunostomy. No evidence of local metastasis or recurrence was found. Both patients died of distant metastases (one of cerebral and one of pulmonary) 19 mo after radical surgery. The importance of careful clinical and radiological examination of symptoms appearing after combined therapy is emphasized. (8 Refs) (In GER)

11. MULTILOCULAR CYSTIC RENAL ADENOCARCINOMA ARISING IN A SOLITARY KIDNEY.

Lewis RH, Clark MA, Dobson CL, O'Connell KJ
Dept. Urology, Natl. Naval Medical Center, Bethesda, MD, 20014
J Urol; 127(2):314-316 1982

Since the first recorded case of multilocular cyst of the kidney in 1892 there have been more than 65 cases reported in the English literature, including 5 cases of multilocular cyst as-

sociated with renal cell carcinoma. At least two patients have had cyst removal without nephrectomy. We present the second case of in vivo removal of a multilocular cyst in a solitary kidney and the only such case with an associated renal cell carcinoma. (Author abstract) (20 Refs)

12. COMPLICATION OF RENAL ARTERY EMBOLIZATION IN KIDNEY SARCOMA.

Kosoi GKh, Kosaia NM
Medical Inst., Kemerovo, USSR
Arkh Patol; 44(1):70-72 1982

A 47-yr-old man with a large fibrosarcoma of the left kidney underwent preoperative embolization of the renal artery. Immediately after embolization, the patient developed backache, numbness of the leg, and progressive kidney insufficiency. Postmortem examination showed thromboembolism of the contralateral renal artery and tibial artery. (9 Refs) (In RUS)

13. RENAL ONCOCYTOMA: REPORT OF A CASE WITH UNUSUAL PRESENTATION.

Moura AC, Nascimento AG
Dept. Medical Oncology, Instituto Nacional de Cancer, Rio de Janeiro, Brazil
J Urol; 127(2):311-313 1982

We report a case of bilateral renal oncocytoma, which was diagnosed by biopsy of the left kidney tumor. The patient refused surgical treatment. After a 6-yr followup she is well, which proves the benign behavior of this neoplasm. The clinical, morphologic and angiographic characteristics of the tumor are discussed. (Author abstract) (5 Refs)

14. HYPERNEPHROID CARCINOMA IN HORSESHOE KIDNEY.

Egghart G, Marquardt HD, Peulen GJ
Urologische Klinik, Stadtische Krankenanstalten Ulm, Kliniken der Universitat, D-7900 Ulm, W. Germany
Urologe [B]; 22(1):37-38 1982

Two patients (men, 19 and 63 yr old) with hypernephroid carcinoma in horseshoe are presented. The younger patient had suffered renal trauma at age 15. Review of literature indicates no increased tendency of anomalous kidneys to develop malignancy. Structural anomalies, including abnormal renal contours and malformed tubular systems, present problems in diagnosis and therapy are discussed. Transverse upper abdominal laparotomy provides best access to the isthmus region of horseshoe kidney. (5 Refs) (In GER)

15. NUCLEAR ANDROGEN RECEPTOR AS MARKER OF RESPONSIVENESS TO MEDROXYPROGESTERONE ACETATE IN HUMAN RENAL CELL CARCINOMA.

Concolino G, Marocchi A, Toscano V, Di Silverio F
Istituto di Clinica Medica Generale e Terapia Medica V, Universita di Roma, Roma, Italy
J Steroid Biochem; 15:397-402 1981

Androgen receptors (AR) were measured in the cytoplasmic and nuclear fractions of human renal cell carcinoma (RCC) in order to find a parameter (ARn) which could better predict the response to hormonal therapy. Cytosol AR were detected in 50% and ARn in 57% of the tumors examined. AR do not only help to define the hormone-dependent human RCC, but may also be useful in the selection of patients to be treated with medroxyprogesterone acetate (MPCA). MPCA could counteract the promoting action of estrogens on tumor growth only in patients with ARn positive tumor. (27 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

16. NEPHROSCOPY: ADVANCES AND ADJUNCTS.

Clayman RV, Miller RP, Reinke DB, Lange PH
Box 428 Mayo, Univ. Minnesota Hosp., 420 Delaware St., S. E., Minneapolis, MN, 55455
Urol Clin North Am; 9(1):51-60 1982

Recent advances and adjuncts to nephroscopy are reviewed. Nephroscopy is indicated in cases of hematuria, disease affecting the renal pelvis, filling defects in the upper urinary tract, and urolithiasis. Nephroscopy is contraindicated in the presence of renal tuberculosis and high-grade transitional cell carcinoma of the renal pelvis. Percutaneous nephrostomy and electrohydraulic lithotripsy are described. (30 Refs)

17. THOROTRAST-INDUCED RENAL PELVIC CANCER AFTER RETROGRADE PYELOGRAPHY.

Amano M, Saito N, Ueda H, Tanaka H
Dept. Urology, Kawasaki Medical Sch., Kawasaki, Japan
Nippon Hinyokika Gakkai Zasshi; 72(11):1500-1507 1981

A 63-yr-old man with complaints of gross hematuria and left flank pain was examined with plain renal x-rays, excretory pyelography, and urinary cytology. Results of the examination, combined with the patient's history of having had left retrograde pyelography 31 yr before, provided the basis for a diagnosis of thorotrast-induced renal pelvic cancer. Transabdominal nephrectomy was performed. Pathohistological examination of the surgical specimen showed transitional cell carcinoma originating from renal pelvis epithelium and also brown granular depositions. The brown depositions were shown by autoradiography, gamma-ray spectrum, and x-ray microanalysis to be thorium (0.175 mg/g tissue). The patient died 11 mo postoperatively. Two other cases of thorotrast-induced renal pelvic cancer have been reported in the Japanese literature. Prophylactic nephrectomy was recommended in cases of thorotrast-affected kidneys, since a relationship was established between the presence of thorotrast beneath the renal pelvic mucosa and the malignant transformation of the epithelium. (17 Refs) (In JPN)

18. COMPUTED TOMOGRAPHY OF THE URETERAL ORIFICE TUMOR.

Takeuchi H, Ikeda T, Tomoyoshi T
Dept. Urology, Shiga Univ. Medical Science, Shiga Prefecture, Japan
Hinyokika Kiyo; 27(7):787-791 1981

We present two cases of ureteral orifice tumor, one originating in the ureter and another in the renal pelvis. In these cases computed tomography of the bladder and the kidney has been useful in the diagnosis. The features of ureteral orifice tumor on computed tomography are described. (Author abstract) (3 Refs) (In JPN)

19. CYSTOURETERAL PYELOSCOPY WITH FLEXIBLE INSTRUMENTS.

Wagenknecht LV
Urologische Klinik, Universitatskrankenhaus Eppendorf, Marinistrasse 52, 2000 Hamburg 20, W. Germany
Therapiewoche; 32(6):643 1982

Intraoperative pyeloscopy was performed via a nephrostoma or a cutaneous ureterostomy in 60 patients. A choledochoscope

with a 5.2 mm outside diameter and a bronchoscope with a 4.3 mm outside diameter were used. The instruments allowed visual diagnosis of renal lesions and extraction of kidney stones in individual cases. An instrument with an outside diameter of 2.3 mm was used to diagnose eight patients with suspected ureteral tumors and three patients with lesions of the upper renal calyx. (no Refs) (In GER)

TUMORS OF THE URINARY BLADDER AND URETHRA

20. CRITICAL EVALUATION OF URINE CYTOLOGY AS A SCREENING METHOD WITH THE EXAMPLE OF 1535 CONSECUTIVE FINDINGS.

Huland H, Kruger A
Urologische Universitatsklinik, Martinistrasse 52, 2000 Hamburg 20, W. Germany
Therapiewoche; 32(5):490-492 1982

Results of 1535 urinary cytological examinations were evaluated as a screening method for detection of bladder tumors. A total of 672 patients were examined; 152 had tumors of the kidney or urinary tract, including 122 with bladder tumors; 30 patients had other tumors. No morning urine samples were used, because of cell degeneration by urine. Cells were collected on a millipore filter and stained with Papanicolaou stain. Cells were graded as malignant, atypical, or unexceptional. When atypical cells were excluded, positive results were correct in 59% of cases, and negative results were correct in 80.4% of cases. When atypical cells were included, correct positive results were obtained in 75% of tumor cases, and correct negative results in 91.4% of tumor-free cases. As indicated by previous studies, the sensitivity of the method increased with increasing grade of tumor dedifferentiation. Half of the patients with atypical cells and 6/46 patients with false positive results had tumors other than bladder carcinoma, indicating that a search for tumors is appropriate with such findings. Reevaluation of 40 false positive findings by an experienced pathologist familiar with the clinical situations produced 3 that remained positive. Of these patients, one later developed a bladder tumor and two had urolithiasis. False positive findings had previously been reported in patients with urolithiasis. Because 25% of bladder tumors were not detected by urinary cytology, the method is not sufficient by itself as a screening method. Urinary cytology is useful in combination with cystoscopy. (no Refs) (In GER)

21. CHARACTERIZATION OF BLADDER PAPILLOMA BY TWO-PARAMETER DNA-RNA FLOW CYTOMETRY.

Klein FA, Melamed MR, Whitmore WF, Herr HW, Sogani PC, Daryzynkiewicz Z
Urology Service Dept. Surgery, Memorial Sloan Kettering Cancer Center, Cornell Univ. Medical Coll., New York, NY, 10021
Cancer Res; 42(3):1094-1097 1982

Two-parameter flow cytometry (FCM) studies of 0.9% NaCl solution bladder irrigation specimens were performed on 48 patients with histologically orderly or atypical papilloma of the urinary bladder in order to assess the value of RNA as a possible second parameter, along with DNA, in the detection of bladder tumors. DNA, RNA, and nuclear diameter measurements were obtained for each of 5,000 cells/sample, and analyses were based on the distributions of those values. With the use of DNA content alone, 22 cases (46%) were classified positive by FCM. With RNA content as an additional parameter, 40 cases (83%) were positive. Two cases were suspicious, and six cases were normal by both parameters. Of 28 patients with papillomas showing histological atypia, 16 patients had positive DNA histograms, including 3 patients with aneuploid stemlines, but 24 of the 28 patients had positive RNA histograms. Of 20 patients with orderly papillomas, 6 patients had positive DNA histograms, including 3 patients with aneuploid DNA stem cell lines, but 16 of the 20 patients had positive RNA histograms. Thus, the probability of positive DNA histograms is higher in atypical papillomas (57%) than in orderly papillomas (30%), whereas elevated (positive) RNA is more characteristic of all papillomas without distinction between those that are histologically atypical (86% positive) or orderly (80% positive). For patients at risk of developing papillary bladder tumors, two-parameter DNA-RNA FCM appears to offer greater diagnostic sensitivity than does FCM based on DNA content alone. (Author abstract) (16 Refs)

22. DNA PROFILE AND TUMOUR PROGRESSION IN PATIENTS WITH SUPERFICIAL BLADDER TUMOURS.

Gustafson H, Tribukait B, Esposti P
Dept. Urology, Karolinska Hosp., Stockholm, Sweden
Urol Res; 10(1):13-18 1982

Two hundred-twenty nine cases of surgically treated superficial bladder tumors Grade 1-2, category Ta or T1, were followed clinically and by flow cytofluorometry (FCM). The mean follow-up time for continuous FCM was 2.6 yr. Three different types of DNA pattern were found in Grade 2 tumors: diploid DNA pattern; tetraploid DNA pattern; and non-tetraploid types with hypo- and hypertetraploid patterns. One hundred-seventy five cases were diploid and 54 were aneuploid. Tumor progression was not seen in the 175 cases with repeatedly diploid DNA pattern. In the cases with tumor progression, the degree of ploidy could be related to the frequency of progression. 50% of the cases with triploid-hypotetraploid DNA pattern showed progression, while 10% with tetraploid DNA showed progression. FCM analysis in 33 cases of recurring tumors revealed that the degree of ploidy and the proportion of S-phase cells was fairly constant. The results indicate that the DNA profile can characterize a bladder tumor by its degree of ploidy and proliferation, and may be significant in predicting progression in cases of well and moderately well differentiated superficial bladder carcinoma. (11 Refs)

23. PROGNOSTIC PARAMETERS IN SUPERFICIAL BLADDER CANCER: AN ANALYSIS OF 315 CASES.

Lutzeyer W, Rubben H, Dahm H
Dept. Urology and Pathology, RWTH Aachen, Aachen, W. Germany
J Urol; 127(2):250-252 1982

A retrospective study of 315 patients with superficial transitional cell carcinoma (Stages Ta to T2) and an adequate followup of 3 yr or longer is reported. Transurethral resection was done in 80% of the patients and open excision or resection was done in 20% for cure or control. We herein demonstrate that, in addition to grade and stage, multifocal tumor growth and whether the tumor is primary or recurrent influence the frequency of recurrences and tumor progression. The over-all recurrence rate after resection of stages Ta, T1 and T2 tumors within 3 yr was 60%. Recurrences after a primary tumor were noted in 45% of the patients and were followed by a second recurrence in 84%, with solitary tumors occurring in 4 6 and multifocal tumors in 73%. Tumor progression was observed in 24% of patients with solitary tumors, 44% of those with multi-

focal tumors, 20 to 25% of those with primary and recurrent Stage Ta and primary Stage T1 tumors, and 56% of those with recurrent Stage T1 tumors. Therefore, when therapy is planned stage, grade, multifocal tumor growth and whether the tumor is primary or recurrent should be considered. Stage Ta tumors can be treated sufficiently by transurethral resection even in the case of several recurrences. More aggressive therapy should be considered when multifocal or recurrent Stage T1 or T2 tumors recur as invasive carcinomas (Author abstract) (17 Refs)

24. PROPHYLACTIC INSTILLATION OF YTTRIUM-90 IN JEWETT 0 BLADDER CARCINOMA.

Donn F, Becker H, Kaufmann J, Montz HR
Urologische Universitatsklinik, Martinistrasse 52, 2000 Hamburg 20, W. Germany
Therapiewoche; 32(5):504,507 1982

In a randomized prospective study 19 patients with Jewett 0 carcinoma of the bladder were treated by instillation of yttrium-90. Instillation was performed 4-6 wk after transurethral electroresection (TUR) and repeated after an additional 8-12 wk, for a total dose of approx 3,000 rad. Tumors recurred in 5/19 patients treated with yttrium-90, compared with 12/19 patients receiving no further treatment after TUR. No local radiation effects were noted during or after treatment. The effectiveness of yttrium-90 is indicated. (2 Refs) (In GER)

25. COMBINED PRE- AND POSTOPERATIVE ADJUVANT RADIOTHERAPY FOR BLADDER CANCER.

Mohiuddin M, Strong GH, Mulholland SG
Thomas Jefferson Univ. Hosp., 11th and Walnut St., Philadelphia, PA, 19107
Urology; 19(2):135-138 1982

Thirty-nine patients with invasive bladder cancer were treated using a new approach to adjuvant radiation therapy. All patients had histologic evidence of bladder muscle invasion on biopsy and were considered suitable for surgical resection. Low-dose preoperative radiation (500 rad) was delivered either on the day of or the day before cystectomy. In most instances, a radical cystectomy was performed and patients were then stratified according to pathologic stagings. Those patients with pathologically good prognostic indicators, Stage B1 low grade (I or II) disease, were followed up with no further treatment. Patients at high risk for local recurrence and pelvic lymph node involvement, Stages B1 high grade (III or IV), B2, and C, were given aggressive postoperative radiation (4,500 rad in 5 wk). Patients with advanced disease, Stage D2, were given palliative therapy. All patients received the dose of preoperative radiation as planned. Preliminary results indicate that combined pre- and postoperative radiation in bladder cancer gives excellent local control of disease. A significant potential for improved long-term survival of patients has been observed. (Author abstract) (19 Refs)

26. REFLECTIONS ON TECHNIQUES OF PREOPERTIVE RADIOTHERAPY IN THE TREATMENT OF CARCINOMA OF THE BLADDER: INITIAL RESULTS AND DISCUSSION OF A THERAPEUTIC PROTOCOL BASED UPON HISTO-PROGNOSIS.

Bolla M, Faure G, Chirpaz A, Martin H, Vrousos C, Revol M
Service de Radiotherapie, C.H.U. de Grenoble, F38700 La Tronche, France
J Urol (Paris); 87(9):625-629 1981

Basing their indications on the histo-prognosis of Opperman and Bittard in malignant tumors of the bladder, the authors decided to irradiate before cystectomy those bladder tumors in which the histo-prognostic index indicated that it was a local disease with metastatic potential and a spontaneous life expectancy of 18 to 30 mo. Radiotherapy was given spread over 23 or 27 fractions providing a total of 46 Gy. Four to 6 wk later, cystoprostatectomy with trans-ileal cutaneous ureterostomy was performed, before chemotherapy for 1 yr. Amongst 11 patients treated, in 6 cases the bladder was completely 'sterilized' from a histological standpoint. However there was persistence of tumor in five bladders with an increase in the histo-prognostic index. Amongst these 11 patients, with a minimum follow-up of 18 mo, there has been a pelvic recurrence in 2 cases and 3 developed fatal metastases. In the opinion of the authors, these preliminary results represent an encouragement to continue along the same lines. (Author abstract) (12 Refs) (In FRE)

27. PHAEOCHROMOCYTOMAS OF THE BLADDER.

Khan O, ChisholmGD, Williams G, Welbourn RB
Urological and Endocrine Surgical Units, Dept. Surgery, Hammersmith Hosp. and Royal Postgraduate Medical Sch., London W12 OHS, England
J R Soc Med; 75(1):17-20 1982

Pheochromocytomas of the bladder are rare, only about 100 cases having been reported previously. Four adults with these lesions have been managed at Hammersmith Hospital in the past 10 yr. Three patients had hypertension, together with syncopal attacks and/or headaches, induced by micturition. The fourth patient presented with hematuria. After control of blood pressure and localization of the tumors by various combinations of cystoscopy, intravenous urography, venous sampling, ultrasound, angiography and computerized coaxial tomography (CT scanning), three patients underwent partial cystectomy, and the fourth pelvic exenteration. Two patients were apparently cured of the disease, but two were not. One developed nodal metastases and recurrence of hypertension after 18 mo and one rapidly developed metastases in the lungs and elsewhere. Effective therapy probably requires a high index of suspicion in diagnosing the condition and possibly an aggressive surgical and radiotherapeutic policy. (Author abstract) (9 Refs)

28. PHEOCHROMOCYTOMA OF URINARY BLADDER.

Zhang Z, Yu S, Han S, Gao Y, Yin W
Dept. Urology, Affiliated Hosp., Tianjin Medical Coll., Tianjin, People's Republic of China
Zhonghua Miniao Waike Zazhi; 2(1):6-8 1981

Diagnosis, surgical treatment and clinical findings are described for four cases (1 man, 3 women; 21-32-yr-old). The major symptoms and physical signs were hypertension, diabetes and hematuria. One of the patients only had hematuria but had no hypertension, thus making preoperative diagnosis more difficult. Diagnosis was based on cystoscopic examination and determination of catecholamines and vanillymandelic acid (VMA). Surgical treatment varied from local tumor resection to partial or total cystectomy. Pathological examination revealed malignancy in one case, with metastasis to the pelviperitoneal region. Patient's hypertension recurred 1 mo after surgery and he died 3 yr after surgery. The other three patients had benign tumors and postoperative follow-up studies revealed normal blood pressure for 1 mo to 2.5 yr. The importance of cystoscopic examination in locating the tumors is stressed. Prevention and management of hypertension due to the cystoscopic procedure are discussed so are methods for maintaining normal blood pressure before, during and after surgery. (13 Refs) (In CHI)

29. URETEROSIGMOIDOSTOMY BY THE 'CUFF' PROCEDURE: THE RISK OF STENOSIS.

Benoit G, Boccon-Gibod L, Steg A
Clinique Urologique, Hopital Cochin, 27, rue du Faubourg Saint-Jacques, 75674 Paris, France
Ann Urol (Paris); 16(2):79-82 1982

The results of uretero-colic anastomosis following cystectomy for bladder cancer are described. Of 46 surgical cases available for follow-up, six patients died. Four of these patients died of cancer, and two died of pulmonary embolisms. Five patients developed fistulas which were closed following lavage. Stenosis developed in 4/5 of these patients. A total of 26 stenoses developed which necessitated 18 additional surgeries. Intravenous urography was used to follow the postsurgical course of the anastomoses. At 1 mo postoperatively, urography demonstrated a dilated excretory duct, in 5/8 cases. In only one case urography demonstrated a stasis, and a recurrent pelvic tumor compressing the ureters was found. Urography was not able to clearly define the level and type of stenosis. The type of surgery chosen for the second procedure depended on the quality of rectal continence and the infectious and metabolic status of the patient. Second surgeries included bilateral cutaneous ureterostomies (5), pyelostomy (2), and one nephrectomy. When the anastomosis was well tolerated (7 cases), the uretero-colic anastomosis was reimplanted. In 17/18 of the reported cases, stasis was apparently of a benign nature. (22 Refs) (In FRE)

30. DILEMMAS IN THE MANAGEMENT OF CARCINOMA-IN-SITU OF THE URINARY BLADDER.

Aigen AB
No affiliation given
Mt Sinai J Med (NY); 49(1):78-82 1982

Treatment, open surgical approaches, and future trends in prevention of bladder cancer, focusing on transitional cell carcinoma, are discussed. Current recommendations for therapy of carcinoma-in-situ include a compromise attitude whereby those lesions which are highly symptomatic are recommended to first undergo a 6 mo intravesical chemotherapeutic trial period, which if not definitively successful are referred for radical cystectomy. The other major approach involves those patient who are largely asymptomatic, or are picked up by urinary cytology only. This group is recommended to undergo a 12-mo course of chemotherapy before conservative treatment is abandoned. (34 Refs)

31. ADENOMATOUS POLYP OF THE MALE POSTERIOR URETHRA: A CASE REPORT AND REVIEW OF THE LITERATURE.

Moriyama M, Ida T
Dept. Urology, Atami Natl. Hosp., Japan
Hinyokika Kiyo; 27(11):1389-1392 1981

A case of polyp of the male posterior urethra was herein reported. A 62-year-old man was hospitalized with asymptomatic hematuria and arrest of urinary stream. Cystopanendoscopy revealed a polypoid mass arising from the verumontanum. A transurethral resection of the pedunculated lesion was done. Histological diagnosis was compatible with adenomatous polyp. The 16 cases including our case, compiled from the Japanese literature, were reviewed and some discussion was done. (Author abstract) (21 Refs) (In JPN)

32. EXENTERATIVE SURGERY FOR POSTERIOR URETHRAL CANCER.

Bracken RB
Div. Urology, Univ. Cincinnati Medical Center, Cincinnati, OH, 45267
Urology; 19(3):248-251 1982

Three men with locally extensive squamous carcinoma of the bulbous urethra underwent staged surgical therapy consisting of laparotomy and ileal conduit urinary diversion followed by a second operation, anterior exenteration and total emasculation with en bloc pubectomy. All have no evidence of disease 18 to 60 mo postoperatively. The operative technique is described. (Author abstract) (16 Refs)

33. CLEAR CELL ADENOCARCINOMA OF THE URETHRA: A CASE REPORT.

Philipson BM, Himmelman A, Johansson S, Nilsson S
(c/o Nilsson) Dept. Urology, Sahlgren's Hosp., S-413 45 Goteborg, Sweden
Scand J Urol Nephrol; 15(3):327-329 1981

Clear cell adenocarcinoma of the urethra is a very rare entity. The presented case in a 35-yr-old woman is the fourth in the literature. The tumor was localized in the wall of the urethra and infiltrated into the outer muscular layer of the urinary bladder. Metastatic spread was found in the paraaortic lymph nodes up to the level of the renal arteries. The final outcome was fatal in spite of the combined treatment with extensive surgery, cytostatic drugs and radiotherapy. (Author abstract) (10 Refs)

34. A STUDY ON THE ETIOLOGICAL FACTORS OF BILHARZIAL BLADDER CANCER IN EGYPT. 6. THE POSSIBLE ROLE OF URINARY BACTERIA.

El-Aaser AA, El-Merzabani MM, Higgy NA, El-Habet AE
Natl. Cancer Inst., Kasr Aini St., Fouad Kaleg, Cairo, Egypt
Tumori; 68(1):23-28 1982

A correlation was obtained between a positive nitrite test in urine and the severity of urinary bacterial infection. Bacteria isolated from the urine of of bilharzial or bladder cancer patients were found to be rich in nitrate reductase activity. 'Escherichia coli' was the most common microorganism isolated from these specimens. Urine and several urinary constituents activate bacterial nitrate reductase. beta-Glucuronidase activity in the urine of patients with chronic 'Schistosoma hematobium' infection and bladder cancer was measured and shown to be significantly greater than that of urine of normal control subjects. Urinary bacterial infection was shown to be the source of the increased urinary level of enzyme activity at pH 7.0. (Author abstract) (26 Refs)

35. AN INDEPENDENT ANALYSIS OF THE NATIONAL CANCER INSTITUTE STUDY ON NON-NUTRITIVE SWEETENERS AND BLADDER CANCER.

Walker AM, Dreyer NA, Friedlander E, Loughlin J, Rothman KJ, Kohn HI
(c/o Dreyer), Epidemiology Resources, Inc., P. O. Box 57, Chestnut Hill, MA, 02167
Am J Public Health; 72(4):376-381 1982

We evaluated the possible relation between use of non-nutritive sweeteners and bladder cancer using data obtained from the National Cancer Institute Bladder Cancer Study under the Freedom of Information Act. In the general study group, there was no evidence for an association between non-nutritive

sweeteners and bladder cancer. Control for a variety of factors through multivariate techniques diminished the plausibility of earlier interpretations of these data, which had raised the possibility that certain subgroups of users of non-nutritive sweeteners might be at an increased risk for bladder cancer. We found that the putative effects of non-nutritive sweeteners were not consistent among subgroups with similar baseline risk, did not display consistent dose-response trends, and were subject to considerable sampling error. We concluded that the data provided little evidence that non-nutritive sweeteners increase risk for bladder cancer among subgroups of users, and that definitive evidence on this question is beyond the reach of conventional research. (Author abstract) (2 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

36. ROLE OF COMPUTED TOMOGRAPHY IN THE EVALUATION AND MANAGEMENT OF CARCINOMA OF THE PROSTATE.

Giri PG, Walsh JW, Hazra TA, Texter JH, Koontz WW
Dept. Radiation Therapy, Univ. Kansas Medical Center, 39th and Rainbow Blvd., Kansas City, KS, 66103
Int J Radiat Oncol Biol Phys; 8(2):283-287 1982

Experience in using computed tomography (CT) for staging and management of prostatic carcinoma (PC) in 25 patients with biopsy-proven PC between 1978 and 1980 is reported. Twelve patients had surgical confirmation of the extent of disease. CT criteria for staging were identical to those used in established clinical staging. The accuracy of CT in identifying nodal involvement was assessed by comparing CT pelvic lymph node diagnosis with histological examination of lymph nodes. CT was correct in 10/12 patients (83%). CT stage differed in 7/25 patients. One patient with clinical Stage A2 was upgraded to D1 because of lymph node involvement. Two clinical Stage B patients were upgraded by CT; one because of seminal vesicle involvement and the other because of extracapsular extension. One Stage B patient was upgraded to D1 by CT as a result of pelvic node involvement. Three clinical Stage C patients had a change in Stage by CT; one was downgraded, and two were upgraded to Stage D1 and D2 because of pelvic node and bladder base involvement, respectively. All six clinical Stage D patients were certified Stage D by CT. CT can be used to evaluate response to treatment and early detection of recurrence. CT can be used also as an adjuvant procedure in staging, treatment planning, and making therapeutic decisions regarding an implant vs external beam therapy. (32 Refs)

37. COMPUTED TOMOGRAPHY IN DEFINITIVE RADIOTHERAPY OF PROSTATIC CARCINOMA, PART 2: DEFINITION OF TARGET VOLUME.

Pilepich MV, Prasad SC, Perez CA
4511 Forest Park Blvd., Suite 311, St. Louis, MO, 63108
Int J Radiat Oncol Biol Phys; 8(2):235-239 1982

Pelvic computed tomography scans obtained between 1977 and 1980 in 100 consecutive patients with carcinoma of the prostate (2 patients with Stage A2, 47 with Stage B, 46 with Stage C, 4 with Stage D1, and 1 with Stage D2 tumor) are discussed focusing on anatomical-pathological considerations. Eighteen patients with Stage B tumor were treated with radioactive iodine implant while the remainder received external beam radiotherapy. Conventional treatment planning (CTP) resulted in inadequate coverage of the tumor vol in 7% of patients with Stage B and C without seminal vesicle (SV) involvement. In Stage C with SV involvement were 53% of the patients, and in Stage D1 50% of the patients had not adequately irradiated the entire vol if only CTP procedures were performed. Dimensions of the prostate, SV, and detectable tumor plotted against the basic reference points, and the distribution of dimensions are presented. The tumor coincided in 75% of the patients with the plane passing through the anterior tip of the femoral beds. The remaining 25% of patients had a coincidence that ranged from 12 mm posterior to 18 mm anterior to that plane. A target vol that would adequately encompass the primary tumor in the majority of the patients with a given clinical stage is possible to define, and it would have encompassed the known primary tumor in 95% of patients with Stage A2, B, and early Stage C in the examined series. (3 Refs)

38. VESICULOGRAPHY AND COMPUTER TOMOGRAPHY FOR DIFFERENTIATION OF T2 AND T3 STAGES OF PROSTATIC CARCINOMA.

Rost A, Fiedler U, Wegener OH
Urologische Klinik und Poliklinik, Klinikum Steglitz, Freie Universitat Berlin, Hindenburgdamm 30, 1000 Berlin 45, W. Germany
Therapiewoche; 32(6):729-730,733-734 1982

Improvement in staging of prostatic carcinoma (PC) was attempted using computer tomography (CT). Vesiculography (VG) was performed in 117 patients with histologically confirmed PC. VG was performed under local anesthesia; 3 ml contrast medium was injected into each seminal vesicle. In addition to VG and other diagnostic procedures, CT was performed in 72 patients. CT involved overlapping section from the apex to the middle of the bladder. CT results were analyzed based on contours of the prostate, relationships to surrounding organs and tissues, evaluation of the periprostatic space, and examination of the seminal vesicles and lymph nodes. Positive VG results were obtained for 47 patients, of whom 10 underwent surgery. Histological findings agreed with VG results in 8/10 cases; false positive VG results were found in two cases. Among 58 patients with negative VG findings, 11 were understaged by VG. CT determination of the extent of local tumor extension was compared with surgical findings in 13 cases. Three cases classified as Stage T2 by CT were found to be Stage T3. CT and VG can improve stage of PC, particularly when used in combination. CT, however, is not suited for differentiation of Stages T2 and T3. (22 Refs) (In GER)

39. BILATERAL PELVIC LYMPHADENECTOMY AND RADICAL RETROPUBIC PROSTATECTOMY FOR ADENOCARCINOMA OF PROSTATE WITH REGIONAL LYMPH NODE INVOLVEMENT.

Zincke H, Utz DC, Myers RP, Farrow GM, Patterson DE, Furlow WL
Mayo Clinic, Rochester, MN, 55905
Urology; 19(3):238-247 1982

Ninety-nine patients with adenocarcinoma of the prostrate and regional lymph node involvement underwent pelvic lymphadenectomy. Therapeutic results were analyzed in 70 patients who subsequently underwent radical retropubic prostatectomy with or without concomitant therapy (usually hormonal) and in 29 patients who received radiation or hormonal treatment only but without prostatectomy. Follow-up ranged from 1 to 14.5 yr. The over-all projected survival rates (Kaplan-Meier) at 5 and 10 yr (88% and 71%, respectively) in the prostatectomy series were comparable to those of an age-

matched control group. Concomitant bilateral orchiectomy provided a high projected (76% at 10 yr) nonprogression rate. Over-all survival rates in the nonprostatectomy series were poor. Only the number of nodes involved was associated with survival and time to disease progression. Patient age, tumor bulk, seminal vesicle involvement, and tumor grade (Mayo and Gleason scores) had no definite relationship to survival. Pelvic lymphadenectomy and radical retropubic prostatectomy for prostatic adenocarcinoma may be therapeutic in some patients with limited (less than or equal to 2 positive nodes) nodal disease. (Author abstract) (28 Refs)

40. LYMPHANGIOGRAPHY WITH FINE-NEEDLE ASPIRATION BIOPSY OF PELVIC AND ABDOMINAL LYMPH NODES IN CANCER STAGING.

Correa RJ
The Mason Clinic, 1100 Ninth Ave., Seattle, WA, 98101
Urol Clin North Am; 9(1):153-155 1982

Evaluation of regional lymph nodes of patients with prostatic cancer by staging lymphadenectomy and lymphangiography (LAG) is discussed. Use of fine-needle biopsy (FNB) of the lymph nodes as a supplement to LAG improves accuracy significantly. The FNB procedure is described. Presence of a tumor can be confirmed cytologically within a few min after the aspirate is obtained and additional samples can be aspirated if needed. Perforation of the bowel or a major blood vessel is a potential hazard but has not been a significant problem. Advantages of FNB are the ability to conduct the entire staging procedure on an outpatient basis, a false-positive rate of zero, and elimination of equivocal interpretations of the lymphangiographic films. Use of FNB with LAG in 121 patients with prostatic cancer is reported. The false-negative rate was 17%. Tumorous lymph nodes were confirmed in 6% of patients with clinical Stage A2 disease, 5% with Stage B, and 26% with Stage C. In patients with an intermediate risk of metastasis, FNB and LAG may be useful in staging while reducing the number of operations. (9 Refs)

41. URINARY TRACT INFECTION AFTER TRANSRECTAL NEEDLE BIOPSY OF THE PROSTATE.

Sharpe JR, Sadlowski RW, Finney RP, Branch WT, Hanna JE
Div. Urology, Univ. South Florida Medical Center, Tampa, FL
J Urol; 127(2):255-256 1982

After routine cleansing enemas 80 patients were randomized to undergo irrigation of the rectal vault with either providone-iodine or saline. A transrectal prostatic needle biopsy then was performed. Antimicrobials were not used before biopsy and were only ordered after biopsy if fever developed or a positive urine culture was obtained. Over-all, 41% of the patients had positive urine cultures post-biopsy and 44% had febrile episodes. There was no significant difference between the group receiving the providone-iodine vs those receiving saline irrigations. (Author abstract) (6 Refs)

42. ASPIRATION BIOPSY CYTOLOGY (ABC). ITS USE IN DIAGNOSIS OF LESIONS OF THE PROSTATE GLAND.

Kline TS, Kohler FP, Kelsey DM
Dept. Pathology, Lankenau Hosp., Lancaster and City Line Ave., Philadelphia, PA, 19151
Arch Pathol Lab Med; 106(3):136-139 1982

Aspiration biopsy cytology (ABC) specimens were obtained from 540 patients by transrectal biopsy because of suspicious lesions or metastases from occult carcinoma. Although poorly differentiated prostatic carcinoma had previously presented few diagnostic problems by ABC, cells from well-differentiated adenocarcinoma had been diagnosed with a low degree of accuracy. To improve recognition of tumor cells, earlier specimens that had yielded false-negative results were rescreened and additional diagnostic criteria observed. By means of these newly supplemented criteria of malignancy, a positive diagnosis was made in 92% of our 40 most recently verified malignant neoplasms, in contrast with 78% in a previous study. Aspirates from 55 men with treated carcinoma were examined for recurrence. Clinical and ABC findings were correlated. Although glands palpated as minuscule or very large correlated precisely with absence or presence of recurrence, in the rest both size and firmness were not necessarily proportional to tumor activity. This fine-needle biopsy has permitted the addition of an accurate, simple study for early evaluation of the recurrence of malignant neoplasm. (Author abstract) (21 Refs)

43. TOWARDS EARLY FUNCTIONAL TREATMENT OF URINARY INCONTINENCE AFTER PROSTATECTOMY.

Moulonguet A, Verges J, Delmas V
C.H.U. Bichat, 46, rue Henri-Huchard, F 75018 Paris, France
J Urol (Paris); 87(9):599-602 1981

The authors report their striking experience of the effectiveness of early functional treatment of urinary incontinence after prostatectomy. This experience is based upon 50 cases collected over a period of 10 yr. Treatment is based upon stimulation of the perineal musculature by faradic current, ano-perineal exercises, and mictional rehabilitation. Results, in 50 cases, showed a marked improvement in 43 (86%), including 15 complete cures (30%). Such a favorable result was obtained with 6 wk treatment. It would appear that the result is all the better when treatment is started earlier, whether in a case of arrhythmic incontinence dominated by urgency, or isolated nocturnal incontinence. The results, once acquired, generally persist. A relapse of incontinence often responds adequately to a new series of sessions of functional treatment. It would appear that the mode of action of this functional therapy is based upon a decrease in bladder instability, and an increase in urethra resistance. The authors show that, with their treatment, improvements and cures in urinary incontinence after prostatectomy occur much earlier with the aid of functional treatment than spontaneously. Thus, treatment is worthwhile undertaking. (Author abstract) (no Refs) (In FRE)

44. INDICATIONS FOR PALLIATIVE URINARY DIVERSION IN PATIENTS WITH CANCER.

Ortlip SA, Fraley EE
Univ. Minnesota Hosp., Box 394, 420 Delaware St., S.E., Minneapolis, MN, 55455
Urol Clin North Am; 9(1):79-84 1982

Results of palliative urinary diversion with percutaneous nephrostomy in patients with obstruction secondary to cancer are reported. In 218 consecutive open nephrostomies, 88% of patients with disease confined to the primary organ were alive at 2 yr, compared with 18% of those with local extension or lymph node metastases and 2% of those with disseminated disease. Complications most often reported with open procedures were sepsis, hemorrhage, prolonged ileus, and inadequate drainage requiring reoperation. Endourologic diversions would be expected to cause fewer deaths and complications than open procedures, allow more patients to return to useful life, and produce fewer patients requiring external collection devices. Good prognostic indicators include limitation of malignant disease to the primary organ, longer duration of disease before de-

velopment of the obstruction, and cancer of the prostrate when associated with ureteral obstruction. Patients with rapidly progressive ureteral obstruction and those with obstruction from malignant disease of the lymphatic system have a poor prognosis. Indications and contraindications for palliative percutaneous urinary diversion are reviewed. (13 Refs)

45. CONSIDERATIONS FOR THE USE OF TESTOSTERONE WITH SYSTEMIC CHEMOTHERAPY IN PROSTATIC CANCER.

Fowler JE, Whitmore WF
(c/o Whitmore) Urology Service, Memorial Hosp., 1275 York Ave., New York, NY, 10021
Cancer; 49(7):1373-1377 1982

Among 52 patients with metastatic adenocarcinoma of the prostate who were treated with exogenous testosterone, 45 (87%) experienced unfavorable subjective and/or objective responses. These unfavorable responses were elicited more frequently and after shorter treatment periods in patients in symptomatic relapse following endocrine therapy than in untreated patients or patients in remission following endocrine therapy. Serious morbidity or mortality, seemingly due to the testosterone administration, occurred in eight cases (15%). It is not known if the action of chemotherapeutic agents will be enhanced by concurrent testosterone therapy, but any such investigation should be undertaken with extreme caution. (Author abstract) (24 Refs)

46. TUMOR GROWTH INHIBITION IN PATIENTS WITH PROSTATIC CARCINOMA TREATED WITH LUTEINIZING HORMONE-RELEASING HORMONE AGONISTS.

Tolis G, Ackman D, Stellos A, Mehta A, Labrie F, Fazekas AT, Comaru-Schally AM, Schally AV
Dept. Medicine, McGill Univ., Royal Victoria Hosp., Montreal, Quebec H3A 1A1, Canada
Proc Natl Acad Sci USA; 79(5):1658-1662 1982

Ten patients with prostatic carcinoma -6 with Stage C and 4 with Stage D disease were treated for 6 wk to 12 mo with agonistic analogues of luteinizing hormone-releasing hormone (LH-RH). [D-Trp6]LH-RH was given subcutaneously once daily at a dose of 100 ug and [D-Ser(But)6]des-Gly-NH210-LH- RH ethylamide (HOE 766) was given subcutaneously (50 ug once daily) or intranasally (500 ug twice daily). In all patients, mean plasma testosterone levels showed a 75% suppression by the 3rd wk of treatment and remained low thereafter. This was followed by a decrease or normalization of plasma acid phosphatase levels by the 2nd mo of treatment and a 47% decrease in serum alkaline phosphatase by the 10th wk of treatment in all but one patient. In patients with Stage C disease presenting with prostatism or urinary outflow obstruction, there was a noticeable clinical improvement. In two such patients, a decrease in the size of the prostate was confirmed by ultrasonography. In patients with Stage D disease manifested by diffuse bone metastases, there was relief of bone pain, and in one patient treated for greater than 12 mo the improvement was documented by radioisotope bone imaging. It is concluded that superactive agonistic LH-RH analogues hold promise as therapeutic agents in patients with androgen-sensitive prostatic adenocarcinoma. Furthermore, the analogues of LH-RH may be used to assess the responsiveness of patients to surgical castration. Long-term administration of LH-RH analogues could become an alternative to surgical castration and estrogen therapy for the treatment of hormone-dependent prostatic carcinoma. (Author abstract) (26 Refs)

47. PHASE II TRIAL OF TAMOXIFEN IN METASTATIC CARCINOMA OF THE PROSTATE.

Glick JH, Wein A, Padavic K, Negendank W, Harris D, Brodovsky H
Hosp. Univ. Pennsylvania, 3400 Spruce St., Philadelphia, PA, 19104
Cancer; 49(7):1367-1372 1982

Fifty-one patients with advanced metastatic carcinoma of the prostate were treated with the antiestrogen tamoxifen. Thirty-eight of these patients were refractory to prior hormonal manipulation with estrogens and/or orchiectomy, and five (13%) achieved an objective response (partial regression or stable disease using the National Prostate Cancer Project criteria). Median survival of the responders was significantly longer than that of the nonresponders (p less than 0.05). An additional 13 patients who had not previously received hormonal manipulation were treated with tamoxifen; one partial response and three disease stabilizations were noted. Response was separately evaluated for 15 patients with objectively measurable lesions using standard Phase II response criteria. Only 1/15 (7%) partial response and 3/15 (20%) disease stabilizations were documented. Subjective benefit in terms of significant pain relief was noted in 17/50 (34%) of patients. Toxicity was mild, but two possible 'tumor flares' were noted. These results do not support the continued investigation of tamoxifen in advanced carcinoma of the prostate. (Author abstract) (22 Refs)

48. MASSIVE PLEURAL EFFUSIONS FROM PROSTATIC LYMPHANGITIC CARCINOMATOSIS. RESOLUTION WITH ENDOCRINE THERAPY.

Heffner JE, Duffey DJ, Schwarz MI
Div. Pulmonary Sciences, Dept. Medicine, Veterans Admin. Hosp., Denver, CO
Arch Intern Med; 142(2):375-376 1982

Pleural effusions are a rare complication of metastatic adenocarcinoma of the prostate and have not been noted to resolve with endocrine therapy. In a patient with massive bilateral pleural effusions as the initial manifestation of underlying prostatic cancer, lung biopsy specimens documented the presence of lymphangitic carcinomatosis and pleural biopsy tissue was normal. The effusions cleared on two occasions after diethylstilbestrol diproprionate therapy was started. We conclude that massive pleural effusions occasionally complicate prostatic lymphangitic carcinomatosis and that they may resolve with endocrine therapy. (Author abstract) (9 Refs)

49. METASTATIC PROSTATIC CARCINOMA TO BREAST OR PRIMARY BREAST CARCINOMA?

Choudhury M, DeRosas J, Papsidero L, Wajsman Z, Beckley S, Pontes JE
(c/o Pontes), Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
Urology; 19(3):297-299 1982

A second primary malignancy in the breast of a man with prostatic carcinoma was studied by means of immunohistochemical techniques for prostatic acid phosphatase (PAP) and prostatic specific antigen (PA). These two techniques enabled us to arrive at the proper diagnosis of breast carcinoma rather than metastatic prostatic carcinoma of the breast. (Author abstract) (35 Refs)

50. CANCER OF THE PROSTATE AND AGING: AN AUTOPSY STUDY IN BLACK MEN FROM WASHINGTON, DC, AND SELECTED AFRICAN CITIES.

Kovi J, Jackson MA, Rao MS, Heshmat MY, Akberzie ME, Williams AO, Christian EC

Dept. Pathology, Howard Univ. Coll. Medicine, Washington, DC, 20059

Prostate; 3(1):73-80 1982

The possible association between age-related anatomic changes in the prostate and the presence or absence of prostate cancer was investigated in whole prostate glands obtained at autopsies of black men in Washington, DC, Ibadan, Nigeria, and Accra, Ghana, West Africa. A total of 795 consecutive specimens were examined, 450 from Washington and 345 from Africa. Age-related changes in prostatic arteries (medial fibrosis, intimal thickening, and smooth muscle proliferation) and age-dependent changes (phlebosclerosis and calcification in veins, sclerotic atrophy) were measured. Both vascular alterations and sclerotic atrophy were significantly more pronounced in black males from Washington than in males from Africa. Age-related changes in the blood vessels of the prostate gland were significantly more severe in blacks from Washington than those from Africa in all age groups except the 80-yr and over group. Cancer was present in 136/450 prostates removed from blacks from Washington and in 32/345 from Africa. Both Washington and African men with cancer were significantly older than those without. When the intensity of age-dependent alterations was compared in men with or without cancer, no significant differences were found between the Washington blacks and the African blacks. Thus, the aging process itself does not appear to be responsible for the high incidence of prostatic carcinoma in the elderly; black males with no carcinoma exhibited the same degree of aging changes in the prostate as black males with carcinoma who were on the av 8-11.5 yr older. (27 Refs)

51. IMMUNOHISTOCHEMICAL IDENTIFICATION OF PROSTATIC ACID PHOSPHATASE: CORRELATION OF TUMOR GRADE WITH ACID PHOSPHATASE DISTRIBUTION.

Bates RJ, Chapman CM, Prout GR, Lin CW

(c/o Lin) Urology Res. Lab., Massachusetts General Hosp., Boston, MA, 02114

J Urol; 127(3):574-580 1982

The localization and distribution of prostatic specific acid phosphatase (PSAP) is normal, hyperplastic and neoplastic prostates were studied by specific immunohistochemical methods. Strong and uniform PSAP staining was observed in the glandular epithelium of normal and hyperplastic prostates. In adenocarcinoma of the prostate, a correlation of the PSAP staining with the degree of differentiation and the ability of the tumor to form a gland was observed: more intense and uniform staining in well differentiated tumors and less intense and more variable stains in poorly differentiated tumors. The same correlation was also observed in tumors metastasized to lymph nodes and other organs. (Author abstract) (32 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

52. SONOGRAPHIC DETECTION OF OCCULT TESTICULAR NEOPLASMS.

Glazer HS, Lee JK, Melson GL, McClennan BL

Mallinckrodt Inst. Radiology, Washington Univ. Sch. Medicine, St. Louis, MO, 63110

AJR; 138(4):673-675 1982

Testicular sonograms were performed in four patients with pathologically proven metastatic testicular neoplasms but a normal physical examination of the scrotum. An abnormal echo texture was seen in all cases: focal hypoechoic nodule (about 1 cm) in two, diffusely hypoechoic in one, and mixed diffuse/focal abnormality in one. Correct sonographic identification of the abnormal testis facilitates surgical removal and precludes unnecessary excision of the contralateral normal testes. The authors recommend testicular sonography to be used as a routine procedure in all patients with such a clinical presentation. (Author abstract) (12 Refs)

53. PROGNOSTIC FACTORS IN CLINICAL STAGE I NON-SEMINOMATOUS GERM-CELL TUMOURS OF THE TESTIS.

Raghavan D, Peckham MJ, Heyderman E, Tobias JS, Austin DE

(c/o Peckham), Royal Marsden Hosp., Downs Road, Sutton, Surrey SM2 5PT, England

Br J Cancer; 45(2):167-173 1982

Prognostic factors have been studied in 59 men with clinical Stage I non-seminomatous germ-cell tumors of the testis seen at the Royal Marsden Hospital between 1973 and 1978. Fourteen of the patients relapsed, and 45 have remained continuously disease-free. Two factors were identified which showed a significant correlation with relapse following radiotherapy: local extent of the primary tumor, and rate of decline of serum alpha-fetoprotein (AFP) and beta-human chorionic gonadotrophin (hCG) levels following orchidectomy. High serum marker levels at the time of referral after orchidectomy were not prognostically significant per se. The presence of tissue-associated hCG in the primary tumor was not prognostically significant. The results were compared with histology and pathological stage of the primary tumor in patients presenting with lung metastases but no clinical evidence of lymph-node disease. Embryonal carcinoma was more commonly associated with a locally invasive primary tumor and with extralymphatic spread than was teratocarcinoma. (Author abstract) (9 Refs)

54. DOES TESTICULAR MASS ALWAYS REQUIRE ORCHIECTOMY?

Godec CJ, Fencl RJ, Cass AS, Fisher RD

701 Park Ave. South, Minneapolis, MN, 55415

Urology; 19(3):263-268 1982

Surgical exploration of a testicular mass should follow the basic principles of cancer surgery, including an inguinal approach, occlusion of the spermatic vessels, opening of the tunica vaginalis, and careful exploration of the testicle, epididymis, paratesticular structures, and spermatic cord. In a very few patients, when intratesticular lesion is small and moveable and can be seen through the tunica albuginea, and if there is a long history of scrotal mass, then the tunica albuginea should be opened and intratesticular exploration performed. The opening of the tunica albuginea does not violate the principles of

cancer surgery, and for a few selected cases can prevent unnecessary orchiectomy. The incision of the tunica albuginea should no longer represent a surgical taboo to the urologist. Six cases of rare, benign intratesticular tumors are presented along with a rare indication for intratesticular exploration and testicle-preserving surgery. (Author abstract) (24 Refs)

55. THE ROLE OF ABDOMINAL SURGERY IN THE TREATMENT OF ADVANCED TESTICULAR GERM CELL TUMOURS.

Jones BM, Newlands ES, Begent RH, Rustin GJ, Johnson AG, Reynolds KW
Dept. Surgery, Charing Cross Hosp., Fulham Palace Road, London W6, England
Br J Surg; 69(1):4-6 1982

Twenty patients with advanced testicular teratoma and 1 with advanced seminoma have undergone abdominal surgery for the removal of residual disease following treatment by sequential chemotherapy. Fourteen out of the 21 patients (66%) have achieved complete remission with a follow-up period of 6-41 mo. In 12 patients (57%) the tumor had undergone histological maturation or necrosis following chem otherapy, those patients in whom the tumor remained histologically active having a worse prognosis. Raised preoperative serum levels of the tumor markers human chorionic gonadotrophin (hCG) and alpha-fetoprotein (AFP) indicating active disease, forecast a particularly poor prognosis, five out of nine such patients (55%) having died. Computerized tomography gave false negative results in three patients (14%). Postoperative complications were few, and only two patients (9%) suffered with failure of ejaculation. At present our policy is surgical removal of any residual mass after chemotherapy to determine the histology, and, wherever possible, to achieve complete clinical and biochemical remission. Six patients with an apparently poor prognosis have benefited directly from surgery and remain in long term remission. The selection of patients who benefit most from surgery can only be determined by more experience and longer follow up. (Author abstract) (19 Refs)

56. SEMINOMA OF THE TESTIS: RESULTS OF TREATMENT AND PATTERNS OF FAILURE AFTER RADIATION THERAPY.

Thomas GM, Rider WD, Dembo AJ, Cummings BJ, Gospodarowicz M, Hawkins NV, Herman JG, Keen CW
Princess Margaret Hosp., 500 Sherbourne St., Toronto, Ontario M4X 1K9, Canada
Int J Radiat Oncol Biol Phys; 8(2):165-174 1982

Outcome of surgical and radiation therapy in 444 patients with histological diagnosis of pure seminoma (SE) treated in a single institution is reviewed to define the factors which predict tumor relapse (TR), and to analyze the sites of TR in relation to the treatment. Eighty-nine percent of patients had a radical inguinal orchidectomy (ORD), 14% had some scrotal surgery consisting of trans-scrotal biopsy, drain site or ORD, and 6% had a laparotomy. The staging distribution of patients is presented (76.1% Stage I, 19.4% Stage II, 4.7% Stage III). The 5-yr actuarial survival rate for all patients was 87%, 94% for Stage I, 74% for Stage II, and 35% for Stage III patients. Scrotal surgery at the time of primary treatment in Stage I patients did not predispose to disease recurrence in the abdomen, pelvis, or scrotum. Twenty-seven patients with Stage II disease developed recurrent SE; 10 of these were cured with further irradiation at the time of recurrence. Patients with a palpable mass (Stage IIB) had a greater chance of recurrence in the mediastinum, abdomen, and in distant visceral sites; uncontrolled abdominal disease was a significant problem for these patients. Disease did not recur in the mediastinum and supraclavicular fossa alone in any of the 40 Stage IIA patients. Numbers of Stage III patients surviving according to the distribution of disease at presentation are shown. Patients who presented with mediastinal and supraclavicular disease, but without palpable abdominal or visceral disease, 5/5 were cured with irradiation. In patients presenting with p alpable abdominal masses in addition to mediastinal and supraclavicular disease, 2/6 were cured with irradiation. None of the eight patients with visceral disease was cured with irradiation. (21 Refs)

57. RADIATION THERAPY OF TESTICULAR NON-SEMINOMAS.

van der Werf-Messing B, Hop WC
Rotterdamsch Radio-Therapeutisch Instituut, Groene Hilledijk 301, 3075 EA Rotterdam, The Netherlands
Int J Radiat Oncol Biol Phys; 8(2):175-178 1982

Value of the primary radiotherapeutic approach was assessed in 121 patients with non-seminomatous germ cell tumors (NST) in various stages. Subgroups that might benefit from an initially combined modality treatment were identified according to stage and histology. Staging included laboratory tests for chorionic gonadotrophins and alpha fetoprotein. Extent of the disease was classified according to the Tumor, node, and metastasis-classification. At diagnosis significantly more patients in the malignant teratoma undifferentiated (MTU)-group were in a more advanced stage than patients in the malignant teratoma intermediate (MTI)-group. A routine dose of 4,000 rad was given to the target area in a period of approx 4 wk, by 5 fractions/wk. Actuarial survival rates were lower for both groups with increasing lymph node involvement (LNI); for most LNI-categories, patients with MTI had a better prognosis. The risk of pulmonary relapse (PR) was considerably higher in the MTU-group. In case of positive lymphangiography (LAG) the risk of PR was higher than with negative LAG for both MTI- and MTU-group. The group with a low risk of PR was composed of patients with either testis involvement or involvement beyond tunica albuginea, and a negative LAG; PR was approx 9% for both MTI- and MTU-groups. All other groups according to site involvement had a risk of PR of approx 50%. The significant risk difference between the total MTI- and MTU-groups is the result of a higher proportion of favorable patients in the MTI-group. (4 Refs)

58. THE DEVELOPMENT OF HYPONATREMIA FOLLOWING COMBINATION CHEMOTHERAPY FOR METASTATIC GERM CELL TUMORS.

Ginsberg SJ, Comis RL, Miller M
Dept. Medicine, State Univ. New York Upstate Medical Center, 750 East Adams St., Syracuse, NY, 13210
Med Pediatr Oncol; 10(1):7-14 1982

The combination of high dose vinblastine, cisplatin, and bleomycin is an extremely effective, but potentially quite toxic, program for the treatment of metastatic germ cell tumors. In addition to the well-described toxicities, we have noted moderate to severe hyponatremia associated with these drugs. Twelve patients who were receiving this combination chemotherapy program had serum electrolyte levels, plasma osmolality, and creatinine clearance performed prior to and again 5 to 9 days after chemotherapy. Nine of the patients had standard water load tests prior to and again 6 to 15 days after chemotherapy. Al l 12 patients developed a fall in serum sodium concentrations following chemotherapy, and 4 patients had severe symptoms attributable to the hyponatremia. Eight patients also

developed hypoosmolality suggesting that the hyponatremia was secondary to impaired water handling. In five patients further evidence of impaired water handling was documented by the development of an abnormal standard water load test following chemotherapy. The hyponatremia and impaired water handling may be due primarily to the high doses of vinblastine in the chemotherapeutic program. Patients who are receiving this combination chemotherapy program should be observed for the development of hyponatremia. The presence of severe, symptomatic hyponatremia and impaired water handling may require appropriate treatment including water restriction and hypertonic saline administration. (Author abstract) (21 Refs)

59. MALIGNANT MESOTHELIOMA OF THE TUNICA VAGINALIS TESTIS.

Hollands MJ, Dottori V, Nash AG
Royal Postgraduate Medical Sch., London W12, England
Eur Urol; 8(2):121-122 1982

A case of a malignant mesothelioma of the tunica vaginalis testis is reported. This is a rare tumor which is best treated with orchidectomy via an inguinal approach and excision of the hemi-scrotum at the earliest possible stage. (Author abstract) (4 Refs)

60. THE SIGNIFICANCE OF THE TUMOR MARKERS ALPHA-FETOPROTEIN AND BETA-HCG IN STAGING AND MONITORING OF THE COURSE OF NON-SEMINOMATOUS TESTICULAR TUMORS.

Scheulen ME, Pfeiffer R, Kropfl D, Schmidt CG
Innere Universitatsklinik und Poliklinik (Tumorforschung), Westdeutsches Tumorzentrum Essen, Hufelandstrasse 55, 4300 Essen 1, W. Germany
Therapiewoche; 32(5):525-531 1982

The presence of the tumor markers alpha1-fetoprotein (AFP) and beta-human chorionic gonadotropin (b-HCG) was measured regularly in serum of 277 patients with non-seminomatous tumors (NSTT) of the testicle at diagnosis and during the course of the disease. Among 230 evaluable patients at diagnosis AFP was detected in 58% and b-HCG in 53%. At least one of the markers was detected in 77% of the patients. Significant differences in serum levels of b-HCG and lactate dehydrogenase were found between patients in Stages I and IIA and those with more advanced disease. Comparison of serum marker levels before and after radical orchiectomy and retroperitoneal lymph node dissection required reclassification of 10/63 patients with Stage I or II tumors to higher stages. Marker levels in these patients remained elevated after surgery. Of 44 patients in complete remission, 20 showed a rise in marker levels an av 2.7 mo before clinical diagnosis of recurrence of NSTT. At 28 mo after treatment 84% of the 52 patients with Stage IIA disease were tumor-free. Of these patients 95% were with normalized marker levels, and 52% of the patients with abnormal marker levels were tumor free. Data indicate that measurement of AFP and b-HCG is a sensitive indicator for staging of NSTT, monitoring of the course of disease, and detection of recurrence. (10 Refs) (In GER)

TUMORS OF THE PENIS AND SCROTUM

61. CARCINOMA OF SCROTUM.

McDonald MW
Dept. Urology, Univ. Texas System Cancer Center M. D. Anderson Hosp. and Tumor Inst., Houston, TX, 77030
Urology; 19(3):269-274 1982

Twelve patients with carcinoma of the scrotum were evaluated: nine with squamous carcinoma and three with basal cell carcinoma. The presenting complaint was a visible skin lesion; the interval between awareness of this lesion and diagnosis averaged 3.3 yr. Three of the 12 patients were black, although this disease previously has been considered rare in blacks. No occupation predominated among the patients in this series, and scrotal carcinoma today may occur as a result of nonspecific factors such as poor hygiene and chronic irritation, rather than industrial exposure. Only 5 of 12 patients were disease-free after treatment; 5 of the others died of squamous carcinoma, 1 died of a postoperative complication, and 1 was lost to follow-up. The most significant correlative with survival was stage at initial diagnosis, indicating the need for a high index of suspicion regarding lesions of the scrotum. (Author abstract) (32 Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

62. DIAGNOSIS OF LYMPH NODE METASTASES BY LYMPHOGRAPHY, COMPUTER TOMOGRAPHY, AND PERCUTANEOUS FINE-NEEDLE BIOPSY.

Rothenberger K, Feuerbach S, Friesen A, Hofstetter A, Pensel J, Pfeifer KK, Rupp N
Urologische Abteilung, Stadtisches Krankenhaus Munchen, Thalkirchner Strasse 48, 8000 Munchen 2, W. Germany
Therapiewoche; 32(6):701-704,707 1982

The sensitivity and specificity of lymphography (LG), computer tomography (CT), and fine-needle biopsy (FNB) for detection of lymph node metastases (LNM) were evaluated in 40 cases of testicular tumor and 33 cases of carcinoma of the bladder or prostate. LG indicated LNM indirectly by detecting alterations in the structure of lymph nodes and vessels. CT detected LNM larger than 1.5 cm in diameter by detecting space-occupying growths and displacement of organs. In cases of testicular tumors CT had a specificity of 100% and a sensitivity of 100%; LG had a specificity of 95% and a sensitivity of 55%. The low sensitivity of LG was due to variations in accumulation of contrast medium by LNM that resulted in failure to detect some LNM. In patients with tumors of the prostate or bladder LNM were detected in 5 cases by LG and CT; conflicting results were produced by LG and CT in 11 cases; Negative results were produced by both methods in 17 cases. FNB of retroperitoneal lymph nodes detected tumor cells in 118/354 patients. Based on clinical results CT is recommended as the method of choice for detecting LNM of testicular tumors. Negative CT findings, which are not conclusive, should be followed by LG and FNB in patients with seminoma and by lymphadenectomy in patients with teratoma. In patients with tumors of the bladder or prostate, CT is sufficient if results are positive; LG is more sensitive than FNB, although results can be improved by using both methods. (9 Refs) (In GER)

63. AUGMENTED ILIOPELVIC LYMPHOSCINTIGRAPHY: APPLICATION IN THE MANAGEMENT OF GENITOURINARY MALIGNANCY.

Ege GN
Dept. Nuclear Medicine, Princess Margaret Hosp., Toronto, Ontario, Canada
J Urol; 127(2):265-269 1982

Bilateral perianal injection of 99mtechnetium antimony sulfide colloid into the ischiorectal fossa has demonstrated effectively the groups of nodes constituting the internal iliac or pelvic lymphatics, confirming normal anatomic variability in the number and topography of the nodes visualized in individual patients. By supplementing this technique with bilateral dorsal pedal injection of radiocolloid, with the resultant visualization of the external iliac lymphatics, the integrity of the entire iliopelvic lymphatic network can be better appraised. Available histopathological and surgical data correlate with the lymphoscintigraphic interpretation. (Author abstract) (14 Refs)

64. URETERAL AND RENAL ENDOSCOPY: A NEW APPROACH.

Perez-Castro Ellendt E, Martinez-Pineiro JA
Avenida de Pio XII, 61, Madrid 16, Spain
Eur Urol; 8(2):117-120 1982

The development of a new rigid instrument for the exploration and treatment of pathologies localized above the ureteral orifice broadens importantly the field of urologic endoscopy. Heretofore, we have used this instrument in 12 patients for the study of various ureteral or renal pathologies. Its advantages over the flexible fiber optic ureterosope and over the previous timid attempts of ureteroscopy or intraureteral litholapaxy with infantile cystoscopes are obvious. The operative possibilities of this instrument shall change the therapeutic approach to many upper urinary tract conditions. (Author abstract) (4 Refs)

65. PERIPHERAL BONE METASTASIS FROM GENITOURINARY TUMORS.

Bunkis J, Carter RD
Dept. Surgery, San Francisco General Hosp., San Francisco, CA, 94110
Urology; 19(3):304-305 1982

Skeletal metastases from genitourinary tract malignancies are common, but peripheral metastases to the hand or foot are rare. There have been 4 prior reports of hand metastasis from a renal tumor. Another case is presented and the English literature reviewed. (Author abstract) (10 Refs)

66. INVERTED PAPILLOMA OF THE URINARY TRACT: MALIGNANT POTENTIAL.

Whitesel JA
Dept. Surgery, Section Urology, Univ. Colorado Medical Center, Denver, CO
J Urol; 127(3):539-540 1982

Inverted papilloma of the urinary tract usually is considered a benign lesion. The second case of this lesion with malignant degeneration is reported. (Author abstract) (18 Refs)

67. CLINICAL EVALUATION OF SERUM FERRITIN LEVELS IN UROLOGIC DISEASES.

Washida H, Jinno H, Fushimi N, Tsugaya M
Dept. Urology, Anjo Kosei Hosp., Japan
Hinyokika Kiyo; 27(11):1351-1354 1981

Serum ferritin was measured using SPAC Ferritin Kit in patients with benign prostatic hyperplasia (BPH: 32 cases), carcinoma of the prostate (26 cases), carcinoma of the bladder (male; 23 cases, female; 5 cases), and carcinoma of the kidney (6 cases). Mean values of serum ferritin were 89.4 +-50.6 ng/ml in BPH, 247.3 +-513.3 ng/ml in carcinoma of the prostate, 80.6 +-72 ng/ml in carcinoma of the bladder of men, 81.0 +-37.1 ng/ml in that of women and 132.7 +-37.1 ng/ml in carcinoma of the kidney. It was suggested that serum ferritin could be contributory for following up patients with carcinoma of the kidney. (Author abstract) (7 Refs) (In JPN)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

68. A FUNDAMENTAL STUDY ON HUMAN RENAL CELL CARCINOMA. PART 6. IN VITRO OBSERVATION ON THE EFFECT OF ANTI-CANCER AGENTS TO HUMAN NEOPLASTIC RENAL CELLS IN COMPARISON WITH NORMAL RENAL EPITHELIAL CELLS.

Matsuda M, Osafune M, Nakano E, Fujioka H, Takaha M, Sonoda T, Watanabe S, Hada T, Higashino K
Dept. Urology, Osaka Univ. Hosp., Osaka, Japan
Hinyokika Kiyo; 27(7):759-770 1981

To find out more effective chemotherapeutic agents against human renal carcinomas, in vitro sensitivity tests of 12 drugs (cyclophosphamide, thio-TEPA, carbazilquinone, 5-fluorouracil, methotrexate, 1-(4-amino-2-methyl-5-pyrimidinyl) methyl-3-(2-chloroethyl)-3 nitrosourea cytosine arabinoside, mitomycin C, adriamycin, bleomycin, vinblastine and cis-platinum(II) diamine dichloride) were carried out on an established renal carcinoma cell line, OUR-10, and the results were compared with the sensitivity of in vitro cultivated human normal renal epithelial cells. The cellular damage caused by the drugs was estimated by the inhibition of intracellular incorporation of 3H-thymidine or 14C-leucine. The inhibition of the isotopic incorporation into normal kidney cells was almost equal or significantly higher compared with that into the cancer cells except for mitomycin C, ACNU and 5-fluorouracil. Methotrexate was a curious drug causing the more enhanced thymidine incorporation but the more reduced leucine incorporation into OUR-10 cells. Several problems included in the present experiment were outlined. But reviewing the past clinical results concerning the chemotherapy on human renal carcinomas, vinblastine, mitomycin C, 5-fluorouracil and hydroxyurea were the rather effective drugs in comparison with others, the sensitivity test herein described was considered to be a useful aid in seeking improved chemotherapy on human renal carcinomas. (Author abstract) (21 Refs) (In JPN)

69. ESTABLISHMENT OF A HUMAN RENAL PELVIC CANCER CELL LINE PRODUCING TISSUE THROMBOPLASTIN AND PLASMINOGEN ACTIVATOR.

Naito S, Tanaka K, Kanamori T, Hisano S, Momose S
Dept. Pathology, Faculty Medicine, Kyushu Univ., Fukuoka, Japan
Urol Res; 10(1):19-25 1982

A human renal pelvic cancer cell line, KP 1, has been established and subcultured 190 times over a 5 yr and 9 mo period. The cells, which have a doubling time of 35 hr, produced subcutaneous tumors in BALB/c nude mice at the 7th and 135th passages, the tumors exhibiting histological appearances similar to the original tumor. Chromosome analysis at the 53rd and 110th passages showed 100% aneuploidy with a model chro-

mosome number in the hypertriploid range. KP 1 cells had both thromboplastic and fibrinolytic activities. Coagulation studies using Factor VII deficient and Factor IX deficient human plasma indicated that the thromboplastic activity is due to tissue thromboplastin of the tumor cells themselves. Fibrinolysis neutralization experiments with anti-urokinase IgG indicated that the plasminogen activator of KP 1 was immunologically identical to urokinase, the plasminogen activator in urine. As fibrin deposition is considered to be an important factor influencing growth and spread of tumor tissue, the KP 1 line should be a useful model system for studying the significance of the coagulation-fibrinolysis system in human cancer. (24 Refs)

70. CHEMOSENSITIVITY OF MURINE RENAL CARCINOMA.

deVere White R, Ki Hong W, Tannenbaum M, Olsson C
Dept. Urology, Columbia Presbyterian Medical Center, New York, NY
Urol Res; 10(1):27-30 1982

The chemosensitivity of a transplantable spontaneously arising renal carcinoma from a Wistar-Lewis rat was investigated. Two tumor transplantation techniques were used, a subcutaneous transplanted flank nodule model and an intraperitoneal metastatic tumor model. In the tumor nodule model, the following drugs were tested in single agent treatments: neocarzinostatin, carminomycin, chlorozotocin, bleomycin, vindesine, (VDR), and maytansine. Previous studies with this model had also tested 5-fluorouracil, hydroxyurea, streptozotocin, adriamycin, vinblastine, cyclophosphamide (CTX), and cisplatin (CIS). In the metastatic model, the agents tested included VDR alone, in combination with CTX, or in combination with CTX and CIS. The most effective single agents were VDR, CTX, adriamycin, vinblastine, maytansine, and neocarzinostatin. The most effective combined treatment was VDR + CTX + CIS. A combined treatment with these three compounds might be effective in patients with metastatic renal carcinoma. (15 Refs)

71. PHASE I CLINICAL INVESTIGATION OF 9,10-ANTHRACENEDICARBOXALDEHYDE BIS[(4,5-DIHYDRO-1 H-IMIDAZOL-2-YL)HYDRAZONE] DIHYDROCHLORIDE WITH CORRELATIVE IN VITRO HUMAN TUMOR CLONOGENIC ASSAY.

Alberts DS, Mackel C, Pocelinko R, Salmon SE
Section Hematology/Oncology, Dept. Medicine, Coll. Medicine, Univ. Arizona, Tucson, AZ, 85724
Cancer Res; 42(3):1170-1175 1982

The compound 9,10-Anthracenedicarboxaldehyde bis[(4,5-dihydro-1H-imidazol-2-yl) hydrazone] dihydrochloride (bisantrene) is a new anthracene bishydrazone derivative which was entered into a Phase I clinical trial (one dose weekly for 3 wk) because it showed significant antitumor activity in a number of animal tumor models and in vitro in the human tumor stem cell assay. When possible, patients were entered into the phase I study if their tumors showed in vitro sensitivity to bisantrene and resistance to standard agents, using a human tumor stem cell assay. Thirty-one patients were treated with bisantrene over a 10-mo period, starting at a dose of 70 mg/sq m/wk. The appearance of leukopenia determined the dose-limiting toxicity of bisantrene. The maximally tolerated dose appeared to be 200 mg/sq m in that three of five patients tolerated these weekly-for-3-wk doses while experiencing only mild or moderate leukopenia. In contrast, the 220-mg/sq m dose caused moderate to life-threatening leukopenia after just two weekly doses in four of five patients. Local bisantrene toxicity included mild to severe arm swelling, phlebitis, pain, urticaria, and erythema in 68% of the patients. In general, these toxicities were well tolerated and rapidly reversible, but two patients had severe local swelling for up to 6 mo. In this Phase I trial, bisantrene showed clinical antitumor activity against both hematological cancer (ie, lymphoma and myeloma) and solid tumors (ie, bladder, lung and renal cancer and melanoma). Of importance, four of the six responses occurred in patients whose therapy was selected on the basis of in vitro sensitivity to bisantrene using the human tumor stem cell assay. One patient with disseminated melanoma had complete disappearance of an axillary node metastasis (for more than 6 mo) while developing a brain metastasis, suggesting that bisantrene does not concentrate in the central nervous system. (Author abstract) (9 Refs)

72. PRODUCTION OF MONOCLONAL ANTIBODY ALPHAPRO3 RECOGNIZING A HUMAN PROSTATIC CARCINOMA ANTIGEN.

Ware JL, Paulson DF, Parks SF, Webb KS
Dept. Surgery, Div. Urology, Duke Univ. Medical Center, Durham, NC, 27710
Cancer Res; 42(4):1215-1222 1982

The monoclonal antibody alphaPro3 recognizes an antigen concentrated in human primary prostatic carcinoma tissue removed surgically. Although the antigen was detectable in extracts of human normal and malignant nonprostatic tissue, as well as in benign prostate tissue, quantitative absorption analysis revealed a substantially greater quantity of the antigen in malignant prostate tissue. The antigen recognized by alphaPro3 in primary prostatic carcinoma has an apparent nonreduced molecular weight of 175,000 and an apparent subunit molecular weight of 54,000. This antigen, p54, appears to be present on the surface of cultured prostatic tumor cells of the PC-3 cell line, but its location in vivo has been defined. Successful competition between alphaPro3 and prostatic carcinoma patient serum immunoglobulin for a Mr 54,000 antigen (reduced molecular weight) present in prostatic carcinoma tissue extract suggests that p54 may play a significant role in the immunobiology of prostatic carcinoma. AlphaPro3 has potential as a sensitive probe for an antigen relevant to human tumor biology. (Author abstract) (46 Refs)

73. PROSTATE CARCINOMA TUMOR SIZE IN RATS DECREASES AFTER ADMINISTRATION OF ANTAGONISTS OF LUTEINIZING HORMONE-RELEASING HORMONE.

Redding TW, Coy DH, Schally AV
Endocrine and Polypeptide Lab., Veterans Admin. Medical Center, New Orleans, LA, 70146
Proc Natl Acad Sci USA; 79(4,part1):1273-1276 1982

The effects of two potent antagonistic analogues of luteinizing hormone-releasing hormone (LH-RH) on the growth of two different models of rat prostate tumors have been investigated. Chronic administration of [NAc-p-F-DPhe1,p-Cl-DPhe2,DTrp3,6,D-Ala(10)]LH-RH (antagonist I) at 50 ug/day for 21 days significantly inhibited the growth of the chemical induced squamous cell carcinoma 11095 in Fischer 344 male rats. The weights of the pituitary, ventral prostate, and testes were not significantly altered. After 21 days of treatment with this analogue, serum luteinizing hormone (lutropin), follicle-stimulating hormone, and testosterone levels were markedly decreased. When male Copenhagen F-1 rats bearing the Dunning 3327H prostate adenocarcinoma were injected with an-

tagonist I at 50 ug/day for 6 wk or with [NAc-p-Cl-DPhe1,2,DTrp3,DPhe6,DAla(10)]LH-RH (antagonist II) at 50 ug/day for 17 days, the percentage increase in tumor volume was decreased to half or less and the actual tumor volume was diminished 34-96% compared to controls. Tumor weight was decreased 30% and 89% after antagonist I and II, respectively, compared to untreated controls. The tumor doubling time was 3-to 4-fold longer in rats receiving the inhibitory analogues than in the controls. Treatment with antagonist II decreased the weight of the whole prostate, but neither antagonist changed the weight of testes, anterior pituitary gland, or adrenals. Serum luteinizing hormone, follicle-stimulating hormone, and testosterone levels in Copenhagen F-1 rats bearing Dunning tumors were significantly decreased after treatment with the inhibitory analogues, but progesterone levels were increased. The inhibitory effects of these antagonistic analogues on rat prostate tumors suggest that these compounds might be considered in the development of new types of ther apy for prostate carcinoma and other endocrine-dependent neoplasias. (Author abstract) (32 Refs)

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SEPTEMBER, 1982

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TUMORS OF THE KIDNEY (GENERAL)

1. COMPUTED TOMOGRAPHIC EVALUATION OF THE RENAL VEIN IN NORMAL AND TUMOROUS KIDNEYS.

Masuda F, Nakada G, Onishi T, Machida T
Dept. Urology, Jikei Univ. Sch. Medicine, Tokyo, Japan
Nippon Hinyokika Gakkai Zasshi; 72(8):1040-1044 1981

Renal veins in 37 patients (31 men, 6 women; 22-78 yr old) with normal kidneys and 23 patients (15 men, 8 women; 44-76

yr old) with renal cell carcinoma of the kidney were studied with computed tomography (CT). CT scanning was performed using a Somatom with a scanning time of 4.5 sec, 256 x 256 matrix, and 7 or 8 mm thick slices; the scan usually covered the region from the ensiform process to the iliac crest. The renal veins were visualized in 66/74 normal kidneys and in 20/23 tumorous kidneys. Compared to the left renal vein, the right renal vein was visualized slightly less often. The renal veins were usually visualized best when scanning 7-8 cm below the ensiform process. Renal veins were less than 1.0 cm in diameter in 59/66 normal kidneys, and none of the renal veins in the normal kidneys were greater than 1.4 cm in diameter. Renal veins were greater than 1.4 cm in diameter in 5/20 kidneys with tumorous kidneys; 4/5 expanded renal veins had intravascular tumor emboli and 1/5 had a renal arteriovenous fistula. Diseases of the renal vein should also be noted in patients being examined with CT for renal disease. (8 Refs) (In JPN)

2. COMPARISON OF COMPUTERIZED TOMOGRAPHY, ULTRASOUND AND ANGIOGRAPHY IN STAGING RENAL CELL CARCINOMA.

Cronan JJ, Zeman RK, Rosenfield AT

Dept. Diagnostic Radiology, Massachusetts General Hosp., Harvard Medical Sch., Boston, MA, 02114

J Urol; 127(4):712-714 1982

Renal cell carcinoma was staged prospectively with computerized tomography, ultrasonography and angiography in 23 cases. Staging was correct with computerized tomography in 91% of the lesions (21 of 23), with ultrasound in 70% (16 of 23) and with angiography in 61% (14 of 23). Computerized tomography of the abdomen is the optimal technique to stage renal cell carcinoma and to determine adjacent organ invasion, lymph node metastases and venous extension. When computerized tomography is not available ultrasonography provides a useful alternative to angiography in preoperative tumor assessment in many cases. (Author abstract) (9 Refs)

3. RADIOLOGIC APPROACH TO THE RENAL MASS.

Bernardino ME, Barnes PA, Lewis E, Thomas JL

Dept. Diagnostic Radiology, Univ. Texas M.D. Anderson Hosp. and Tumor Inst., Houston, TX

Cancer Bull; 34(1):16-20 1982

The relationship of older diagnostic approaches (routine abdominal radiography, iv pyelography with tomography, radionuclide studies, and angiography) to the newer techniques of ultrasound and computed tomography (CT) is reviewed, and a radical new approach to diagnosis of the renal mass is demonstrated. Strengths and weaknesses of the newer modalities are discussed. Pediatric renal mass, renal pelvic mass, renal cyst, and solid renal mass are considered, with illustrative CT scan and ultrasound images. Frequency of cyst aspiration can be greatly reduced because ultrasonography is often sufficient for diagnosis of a lesion detected serendipitously; aspiration can be limited only to those lesions about which a question exists. In cases of suspected solid mass, or when the patient is asymptomatic, CT scan is often sufficient for visualization prior to surgery, for assessment of renal vein, inferior vena cava, and liver, and for locating lung nodules. Other more invasive methods may be avoided in many cases. (19 Refs)

4. REPEAT BENCH SURGERY ON A SOLITARY KIDNEY.

Gittes RF, Blute RD

Harvard Program in Urology (Longwood Area) and Dept. Surgery, Brigham and Women's Hosp., Boston, MA

J Urol; 127(3):530-532 1982

Extracorporeal or bench surgery on a solitary kidney was performed twice in the same patient within 4 yr to excise two separate malignant tumors arising in the renal cortex. A third separate small tumor was detected 1.5 yr later and was excised in situ with a clamped pedicle and renal cooling. These techniques permit tumor dissection without spillage and avoid dialysis, with no evident disadvantage in terms of tumor survival rate. (Author abstract) (6 Refs)

5. EMBOLIZATION, POLYCHEMOTHERAPY, AND HORMONE THERAPY IN THE TREATMENT OF METASTASIZED RENAL CARCINOMA.

Amorosi W, Fiore M, Ingrosso D, Panza N, Campanella L, Carteni G, Spena A, Cataldo B

Divisione di ChemioterapiaAntiblastica Generale - Osp. 'A. Cardarelli', Ente Ospedaliero Regionale Generale - Ospedali Riuniti di Napoli, Napoli, Italy

Rass Int Clin Ter; 61(12):805-811 1981

A 67-yr-old man, who underwent laryngectomy due to cancer 7 yr ago, had hematuria. After urography, arteriography, radiography, cytologic examination of urine, and chest stratigraphy, a diagnosis of inoperable renal adenocarcinoma with pulmonary metastases (PM) was established. Embolization of renal artery with spongostan, polychemotherapy (adriamycin, VM26, and lomustine), and hormone therapy (medroxyprogesterone) was administered. After 1 yr the PM had disappeared and after 56 mo the patient was still alive. (23 Refs) (In ITA)

6. DISTANT METASTASIS OF RENAL ADENOCARCINOMA IN PATIENTS WITH A TUMOR THROMBUS IN THE RENAL VEIN AND/OR VENA CAVA.

Saitoh H

Dept. Transplantation, Tokai Univ. Sch. Medicine, Bohseidai, Isehara-shi, Kanagawa-ken, 259-11, Japan

J Urol; 127(4):652-653 1982

Autopsy records of renal adenocarcinoma cases were analyzed to investigate the mode of metastatic spread in instances of a tumor thrombus in the renal vein and/or vena cava. In this series of 1,828 cases 137 (7.5%) had a tumor thrombus. Analysis revealed no significant differences in the incidence of the tumor thrombus between sexes or sides of primary renal involvement, or whether nephrectomy had been performed. The cases with a tumor thrombus showed higher frequencies of metastases in the liver, hepatic hilar lymph nodes and ureter, while metastases in the bones, contralateral kidney and brain were less frequent. The results suggest that bypass routes or lymphogenous spread of the tumor might be facilitated in some cases with a tumor thrombus. (Author abstract) (8 Refs)

7. AN EORTC PHASE II STUDY OF METHYL-GLYOXAL BIS-GUANYLHYDRAZONE IN ADVANCED RENAL CELL CANCER.

Child JA, Bono AV, Fossa SD, Ten Bokkel Huinink WW, De Pauw M, Stoter G
Dept. Haematology, Leeds General Infirmary, Leeds LS1 3EX, England
Eur J Cancer Clin Oncol; 18(1):85-87 1982

In a Phase II study of methyl-glyoxal bis-guanylhydrazone (methyl-GAG) in patients with bi-dimensionally measurable metastases of renal cell cancer, 30 patients were given 500 mg/m2 weekly for at least four treatment cycles and were evaluable for response. Three patients (10%) achieved partial remission (PR) with a duration of 8-12 wk; in 11 patients the disease was assessed as stable; and in 16 there was progression. A total of 40 patients were evaluable for toxicity. Nausea and vomiting occurred in 17 (43%), neuropathy, myopathy or myalgia in 8 (21%) and mucositis in 6 (14%). In addition to three patients taken off treatment before four treatment cycles, toxicity precluded further treatment in three others after five, six and seven cycles, respectively. Methyl-GAG has minimal activity in renal cell cancer and, in this dose schedule, causes appreciable toxicity. (Author abstract) (15 Refs)

8. RADIATION EFFECTS ON THE DUODENUM.

Linhart P, Egger G, Clemencon, Schmid, Seifert E, Ammann R, Halter F
Deutsche Klinik fur Diagnostik, Aukammallee 33, D-6200 Wiesbaden, W. Germany
Praxis: 71(9):383-387 1982

Radiation damage to the duodenum in two patients (a 64-yr-old man and a 70-yr-old woman) is reported. Both patients had undergone nephrectomy for renal cell carcinoma. The man received 4,970 rad ultrahard x-irradiation (4 x 250 rad/wk) to the area of the right kidney. Approx 4 mo after the last irradiation, the patient developed vomiting, usually 2-3 hr after meals. Cramp-like pains were felt. Gastroduodenoscopy (GDS) detected diffuse erosion of the stomach wall and stenosis of the bulbus duodeni. Histological examination showed inflammatory infiltration and an epithelial defect covered by granulocytes and fibrin. The patient underwent posterior gastroenterostomy and at time of report was undergoing radiotherapy for spinal metastases. The woman began to vomit 19 yr after nephrectomy and radiotherapy; the vomiting was accompanied by severe upper abdominal pain. GDS showed stenosis of the duodenum. The patient underwent gastroenterostomy with vagotomy and was free of pain 9 yr after the surgery. Review of the literature indicated that although irradiation of the renal area is common, few cases of radiation damage to the duodenum are reported. Lack of such reports may be due, at least in part, to a latency period that exceeds the survival time of most renal cancer patients. (6 Refs) (In GER)

9. RENAL CELL CARCINOMA METASTATIC TO PENIS.

Ordonez NG, Ayala AG, Bracken RB
Dept. Pathology, Univ. Texas System Cancer Center, M. D. Anderson Hosp. and Tumor Inst., 6723 Bertner Ave., Houston, TX, 77030
Urology; 19(4):417-419 1982

Metastasis from renal cell carcinoma to the penis is rare. We report on two patients: in one, priapism developed and in the other, diffuse penile enlargement secondary to metastatic disease. (Author abstract) (12 Refs)

10. SILENT PANCREATIC METASTASIS FROM RENAL CELL CARCINOMA DIAGNOSED AT ARTERIOGRAPHY.

Yazaki T, Ishikawa S, Ogawa Y, Takahashi S, Nemoto S, Rinsho K, Kanoh S, Kitagawa R
Dept. Urology, Univ. Tsukuba, Ibaragi, Japan
Hinyokika Kiyo; 27(12):1517-1522 1981

The pancreas is an uncommon site of metastasis from renal cell carcinoma. It is extremely rare to diagnose renal cell carcinoma with metastasis to the body of the pancreas before surgery. We report such a case diagnosed incidentally on arteriography. Partial pancreatectomy with splenectomy was performed at the time of radical nephrectomy. Reported cases of metastatic renal cell carcinoma to the pancreas are reviewed briefly. (Author abstract) (16 Refs)

11. LONG-TERM OCCUPATIONAL LEAD EXPOSURE, CHRONIC NEPHROPATHY, AND RENAL CANCER: A CASE REPORT.

Lilis R
Environmental Sciences Lab., Mount Sinai Sch. Medicine, One Gustave L. Levy Place, New York, NY, 10029
Am J Industr Med; 2(3):293-297 1981

The case of a 61-yr-old man who developed deterioration in renal function and hypernephroma after being occupationally exposed to lead for greater than 30 yr is presented. During that time, the patient had repeatedly elevated blood lead levels and had undergone at least five courses of chelation therapy. He developed symptoms of lead poisoning, as well as clinical findings indicating subacute renal damage (elevated blood urea nitrogen and uric acid and course granular casts in the urine). Several mo later, a diagnosis of chronic renal insufficiency and hypernephroma of the right kidney was established. Following surgical removal of the tumor, the patient's renal function followed the same trend as before, ie, slow deterioration. (11 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

12. PRIMARY TUMORS OF THE RENAL PELVIS AND URETER: VALUE OF POSTOPERATIVE EXTERNAL RADIOTHERAPY.

Nguyen TD, Franck D, Bugat R, Douchez J, Combes PF
Service de Radiotherapie, Centre Claudius Regnaud, 11, rue Piquemil, 31052 Toulouse Cedex, France
Sem Hop Paris; 58(11):661-664 1982

Twenty-four observations of primary malignant tumors of the renal pelvis and ureter derived from epithelial cells were included in this study. Thirteen patients were treated by radiotherapy and surgery. In 11 patients, surgical excision was the only treatment. Although patients were not randomized there was no significant difference between the two groups concerning the following parameters: age distribution, sex ratio, stage of disease, histological grade, surgical procedure. The morbidity related to external radiotherapy (megavoltage technique, delivering 45 grays in 5 wk) was low: only one patient developed retroperitoneal fibrosis. No patient was lost to follow-up. Local recurrence occurred in 54.5% of the patients treated by surgery alone, against 15.5% after combined radio-surgical therapy. The overall 3-yr survival rate was 35% without any significant difference between the two groups. The authors ad-

vocate postoperative high-voltage radiotherapy for non-disseminated carcinoma of the renal pelvis and ureter. (Author abstract) (9 Refs) (In FRE)

13. SPECIFIC RED CELL ADHERENCE TEST APPLIED TO TUMORS OF URETER AND RENAL PELVIS.

Gruber MB, Becker SN, Warren MM, Rambo MJ, Davis CP
Dept. Surgery, Div. Urology, Univ. Texas Medical Branch, Galveston, TX
Urology; 19(4):361-365 1982

The specific red cell adherence (SRCA) test used previously as a prognostic indicator of bladder tumors was used in a retrospective review of 14 patients with transitional cell carcinoma of the ureter and renal pelvis. SRCA-positive individuals appear to have better survival and progress less frequently to metastatic disease. Of five patients with positive reactions, none had distant metastases. Conversely, in SRCA-negative individuals metastatic disease developed more frequently (4 of 9). The SRCA test can be as useful a test of the prognosis of ureteral and renal pelvis tumors as it is of urinary bladder tumors. (Author abstract) (16 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

14. TRANSURETHRAL ULTRASONOGRAPHIC TOMOGRAPHY FOR URINARY BLADDERS.

Nakamura M
Tokyo Univ., Tokyo, Japan
Hinyokika Kiyo; 28(1):107-108 1982

Relative merits and demerits of urinary bladder ultrasonography, computed tomographic (CT) scans, and urinary bladder pelvis venography were discussed with respect to diagnosis of depth of tumor invasion. Pelvic venography has occasional risk of severe complications. CT cannot distinguish the border between the bladder wall and tumors and between muscle layers and mucinous adenomas. For selective surgical resection and for therapeutic biopsy, transurethral ultrasonography was thought to be the best method to determine the depth of tumor invasion. (no Refs) (In JPN)

15. DETERMINATION OF DEPTH OF BLADDER TUMOR INVASION BY COMPUTED TOMOGRAPHY - FOCUS ON IDEAL LINE OF THE EXTERNAL VESICLE WALL AND W/H.

Uchida T
Dept. Urology, Kitasato Univ. Sch. Medicine, Japan
Nippon Hinyokika Gakkai Zasshi; 72(8):1018-1034 1981

Based on computed tomography (CT) findings in 56 patients with bladder tumors, a method of staging bladder tumors by CT and new criteria for estimating the extent of tumor infiltration is presented. The depth of invasion of the bladder tumors (55 transitional cell carcinoma, 1 squamous cell carcinoma) were confirmed pathologically by biopsy or autopsy. According to the Jewett-Marshall system, 3 cases were Stage O, 23 were Stage A, 11 were Stage B1, 6 were Stage B2, 3 were Stage C, and 10 were Stage D. CT was performed using an ACTA SCANNER-0100 or a GE CT/T-8800; air was used as the filling material in 50 cases, saline soln in 5, and 6% Urographin in 1. Extent of bladder tumor invasion was based on (1) morphology of the tumor, (2) mobility of the tumor body, (3) ideal line of the external vesicle wall and the variation of the actual bladder from that line, and (4) tumor root width/tumor height ratio (W/H). Based on these criteria, characteristics of the various Stages were as follows: Stage O, A, and B1 tumors were small papillary of polypoid type, had tumor body mobility (+), had no deformity of the external vesical wall line (-), and W/H was less than 1.2; Stage B2 tumors were nodular type, were not mobile (-), had elevation of the ideal line (- or +), and W/H was greater than or = 1.2; Stage C tumors were nodular type, were not mobile (-), showed penetration of the ideal line (+), and W/H was greater than or = 1.2; Stage D1 tumors showed evidence of tumor invasion to perivesical structures and metastases to intrapelvic structures. Using this system retrospectively, 15/15 Stage B2, C, or D tumors were diagnosed accurately. (48 Refs) (In JPN)

16. CYTOLOGIC DIAGNOSIS OF CANCER OF THE URINARY BLADDER: RELIABILITY, PITFALLS AND GRADING.

Droese M, Woltjen H-H, Zimmermann A, Schroter W
Zentrum Pathologie, Universitat Gottingen, Robert-Koch-Strasse 40, D-3400 Gottingen, W. Germany
Urologe [A]; 21(2):73-78 1982

Results obtained after the cytologic examination (CE) of bladder washings and after the histologic examination (HE) of biopsies from 117 patients with suspicion of bladder cancer (BC) were compared and evaluated. After the bladder was empty, washing with 100 ml NaCl solution was performed, immediately centrifuged, and the sediment underwent CE. Of the 117 patients, 88 had histologically confirmed BC after the first biopsy, and 29 had benign changes. According to World Health Organization classification, 34/88 patients had Grade I, 31/88 had Grade II, 16/88 had Grade III, 5 had adenocarcinoma, and 2 had undifferentiated BC. Results of CE were positive in 39/88 patients with BC, suspicious in 20/88, and negative in 29/88. Accuracy of CE depends on differentiation and Grade of malignancy. CE positive results were obtained for 10/34 Grade I patients with BC, for 15/31 with Grade II, and for 10/16 with Grade III. Of the 29 patients with HE negative results, 6 produced positive results after CE, 2 were suspicious, and 2/6 positive results were confirmed after the second biopsy. When cystoscopy and HE indicated negative results and CE positive or suspicious, the first two tests should be repeated. (18 Refs) (In GER)

17. TOTAL CYSTECTOMY FOR BLADDER CARCINOMA: DENONVILLIERS FASCIA AS A LANDMARK.

Boccon-Gibod L, Steg A
27, Rue du Faubourg Saint Jacques, 75014 Paris, France
Urology; 19(4):386-388 1982

Separating the posterior aspect of the prostate from the anterior rectal wall in total prostatocystectomy is often a blind maneuver. It can be done with great security if one respects the Denonvilliers fascia capital landmarks, easily identifiable during extraperitoneal exposure of the bladder. (Author abstract) (5 Refs)

18. NEPHROGENIC ADENOMA: A REPORT OF 9 CASES AND REVIEW OF THE LITERATURE.

Navarre RJ, Loening SA, Platz C, Narayana A, Culp DA
Dept. Urology, Univ. Hosp. and Clinics, Iowa City, IA
J Urol; 127(4):775-779 1982

Five men and four women (17-79 yr old; av 42 yr old) presented with nephrogenic adenomas of the bladder. All patients had chronic, recurrent urinary tract infections. Seven patients had sustained mechanical traumas to the bladder, from multiple endoscopic instrumentations (3/7), cadaver kidney transplantation (3/7: 2/3 patients had received immunosuppressive therapy for 4-8 yr, 1/3 rejected the graft after 2 mo and was treated by hemodialysis thereafter), or accidental bladder rupture (1/7). One patient presented with urethral stricture from a prostatic adenocarcinoma. Two patients had histories of transitional cell carcinomas (TCC) of the bladder; one patient, with invasive TCC, had been given external radiotherapy (7,000 rads) that did not control the TCC. In these patients, as in 28 reported cases of nephrogenic adenoma of the bladder, chronic inflammation may have led to metaplastic changes of the transitional cells. The natural history of nephrogenic adenoma of the bladder is that of an isolated polypoid or papillary neoplasm which will multiply if not removed. Two of the nine patients developed definite or suspected recurrences of nephrogenic adenoma. The recommended treatment is transurethral resection of the tumor with extensive fulguration of the base and regular cystoscopic follow-up (every 3 mo for 2 yr, every 6 mo for 3 yr, then annually if no further recurrences have been detected). Transplant patients with recurrent urinary tract infections should undergo cystoscopy to exclude this tumor as a source of infection. (15 Refs)

19. HIGH DOSE, SHORT COURSE PREOPERATIVE RADIATION THERAPY AND IMMEDIATE SINGLE STAGE RADICAL CYSTECTOMY WITH PELVIC NODE DISSECTION IN THE MANAGEMENT OF BLADDER CANCER.

Skinner DG, Tift JP, Kaufman JJ
Dept. Surgery, Div. Urology, Univ. Southern California Sch. Medicine, Los Angeles, CA
J Urol; 127(4):671-674 1982

During a 9-yr interval 131 patients with high grade invasive or multifocal bladder cancer were treated with high dose, short course preoperative radiation therapy (1,600 rad during 4 days) followed immediately by single stage radical cystectomy with pelvic node dissection. Analysis of the data reveals a surprising incidence of positive nodes in patients thought to have superficially invasive disease. There was excellent local control of the primary disease with this protocol, since only six patients (5%) had pelvic recurrence as the first indication of failure. Survival and pelvic recurrence rates with this combination are similar to those reported using higher doses of short course preoperative radiation therapy or more prolonged standard fractionation protocols, raising questions as to the significance of preoperative therapy. Despite improved surgical techniques with lower morbidity nearly 50% of the patients with deeply invasive disease die of metastatic disease, implying the need for effective adjuvant systemic therapy. (14 Refs)

20. ANALYSIS OF THE EFFECT OF PREOPERATIVE IRRADIATION WITH A DOSE OF 2,000 RADS ON THE CONDITION OF URETEROSIGMOIDOSTOMY IN PATIENTS SUBJECTED TO TOTAL CYSTECTOMY FOR BLADDER CARCINOMA.

Borowka A, Krzeski T, Zachwiej J
Klinika Urologii, Centrum Medycznego Kształcenia Podyplomowego, ul. Czerniakowka 231, 00-416 Warsaw, Poland
Nowotwory; 31(3/4):237-242 1981

The effect of preoperative irradiation (total dose 2,000 rads, 400 rads/day) on the condition of ureterosigmoidostomy was studied in 41 patients subjected to total cystectomy with ureterosigmoidostomy for carcinoma of the urinary bladder. Twenty-one patients (19 men and 2 women, median age 60 yr) were subjected to surgery with preoperative irradiation (Group I), 20 others (18 men and 2 women, median age 60 yr) to surgery only (Group II). Transitional epithelial carcinoma was diagnosed in 18 patients in Group I and in 17 in II, squamous epithelial carcinoma in 2 and 1, and undifferentiated carcinoma in 1 and 2, respectively. Stage T2 diagnosed in 3 patients in Group I and in i in II, T2 in 1 and 4, respectively, T3 in 17 and 12, and Tx in 3 patients in Group II. The early postoperative mortality was 4/21 in Group I and 2/20 in II, the late postoperative mortality 6 and 7, respectively, the fates of 1 patient in Group I and of 5 in Group II are unknown, and 10 patients in Group I and 6 in II were alive at the time of reporting. The causes of early postoperative deaths in Group I included hemorrhage, peritonitis, and acute suppurative inflammation of the renal parenchyma with septicemia. The causes of early deaths in Group II included rupture of the duodenal ulcer and of the urinary-stercoral fistula. Patency of the ureterosigmoidostomy was found in 13 patients in Group I and in 12 in II. The findings indicate that preoperative irradiation did not increase the risk of development of ureterosigmoid stricture. However, the implantation of the ureters into the colon was associated with a risk of ascending renal infection. The considerable frequency of disturbances in water-electrolyte metabolism and in acid-base balance calls for caution in establishing the indications for ureterosigmoidostomy after cystectomy. (9 Refs) (In POL)

21. HYPERTHERMIC PERFUSION OF THE DISTENDED URINARY BLADDER IN THE MANAGEMENT OF RECURRENT TRANSITIONAL CELL CARCINOMA. A REVIEW AFTER 6 YEARS.

Newsam JE, Law HT
Dept. Urology, Western General Hosp., Edinburgh EH4 2XU, Scotland
Br J Urol; 54(1):64-65 1982

Results of treating 12 patients with intractable postradiotherapy bladder bleeding due to tumor (11) or telangiectasia (1) with hyperthermic perfusion are described. A new device for the application of local hyperthermia to body cavities is described for the treatment of patients who have intractable hematuria following radical radiotherapy for the management of recurrent transitional cell carcinomas and for patients with multiple T1 tumors unsuitable for diathermy and unresponsive to epodyl. (1 Ref)

22. CYTOSINE ARABINOSIDE BLADDER INSTILLATION THERAPY FOR BLADDER TUMORS.

Araki H, Mistina T, Miyakoda K, Fujiwara T, Kobayashi T
Dept. Urology, Kyoto Prefectural Univ. Medicine, Kyoto 602, Japan
Tohoku J Exp Med; 136(1):23-28 1982

Thirty randomly selected patients with bladder cancer were treated with instillations of cytosine arabinoside (CA) for 20 times, either once daily for inpatients or 3x/wk for outpatients. CA (400 mg in 20 ml sterile water) was introduced by catheter and held as long as possible, usually about 3 hr. There were three complete (10%) and seven partial (23%) responses, for a total effective rate of 33%. The effective rate decreased with increasing size and number of tumors. It was 25% for papillary pedunculated tumors (16 patients), 63% for papillary sessile tumors (8), 17% for nonpapillary sessile tumors (6), 44% for posterior wall tumors (18), 0% for anterior wall tumors (2), 14% for trigone tumors (7), 33% for tumors of the whole bladder, 42% for Stage A (24), 0% for Stages B-D (6), 33% for Grade G0 (15), 38% for Grade G1 (13), and 0% for Grade G2-G3 (2). There were no local or systemic side effects from the treatment. CA was most effective for a single papillary tumor less than 10 mm in diameter located on the posterior wall. (11 Refs)

23. PROGNOSTIC FACTORS INFLUENCING SURVIVAL OF PATIENTS RECEIVING INTRAVESICAL EPODYL.

Riddle PR, Khan O, Fitzpatrick JM, Oliver RT
St. Peter's Hosp. and Inst. Urology, London, England
J Urol; 127(3):430-432 1982

Results from a retrospective analysis of 139 patients with recurrent superficial bladder tumors treated by intravesical epodyl are reviewed. Of patients who had complete clearance of tumor from the bladder 95% became free of disease within 12 mo of starting intravesical therapy. No patient who had persistent tumors at 2 yr was free of tumor subsequently. The majority of complete responders who suffered recurrences did so within 3 yr and 80% of a small series of patients who remained free of tumor after 3 yr and then stopped treatment continued to be free of tumor for a further 2 yr. Failure to respond within 12 mo or early invasion of the submucosa on biopsy (Stage P1b tumors) was associated with poor survival. In patients who underwent salvage cystectomy the demonstration that 35% had involved metastatic lymph nodes and 38% had invasion of muscle is a clear indication of the dangers of delaying radical treatment once the patient has failed to respond completely to intravesical therapy. (Author abstract) (10 Refs)

24. STERILIZATION FOLLOWING INSTILLATION OF THIOTEPA INTO THE URINARY BLADDER.

Homonnai TZ, Paz G, Servadio C
Municipal Governmental Medical Center, Soferman Inst. For Study of Fertility, Maternity Hosp., P. O. Box 7079, Tel-Aviv, Israel
Br J Urol; 54(1):60 1982

Primary infertility of at least 1 yr in duration was observed in a 31-yr-old man who had a history of recurrent papillary transitional cell carcinoma of the urinary bladder. The patient had undergone three surgical procedures and periodic instillation of thiotepa into the bladder for treatment of the cancer. Three semen specimens examined were azoospermic. The relationship between thiotepa instillation into the urinary bladder and infertility is discussed. (3 Refs)

25. CLINICAL EXPERIENCES WITH LOCAL MITOMYCIN THERAPY OF SUPERFICIAL UROTHELIAL CARCINOMA OF THE URINARY BLADDER.

Fluchter SH, Bichler KH, Harzmann R, Erdmann D
Lehrstuh und Abt. fur Urologie, Universitat Tubingen, Calwer Str. 7, D-7400 Tubingen 1, W. Germany
Onkologie; 5(1):42-45 1982

One hundred five patients with transitional cell carcinoma of the bladder, Stage Tis, TA, T1 were treated by a local cytostatic therapy with Mitomycin C (MMC) after transurethral resection (TUR) of the bladder with the following purposes: (1) curative therapy of the carcinoma in situ. (2) avoidance of tumor cell implantation from the TUR. After a follow-up of 22.3 mo this therapeutic concept seems to be of great promise because of its clearly reduced recurrence rate of a total of 12.4%. Side effects are slight. Nevertheless it must be pointed out, that any definitive statement can only be made after a long term observation, especially by multicentric, controlled, randomized studies. MMC serum resorption studies with 19 patients, partly with reflux and TUR caused perforation of the bladder, showed that MMC instillation therapy (20 mg MMC/40 ml NaCl) immediately after resection did not lead to a systemic toxic concentration. (Author abstract) (34 Refs) (In GER)

26. COMBINATION CHEMOTHERAPY FOR ADVANCED BLADDER CANCER.

Hall RR, Evans RG, Pritchett CJ, Price DA
Dept. Urology, Freeman Hosp., Freeman Road, High Heaton, Newcastle upon Tyne NE7 7DN, England
Br J Urol; 54(1):16-19 1982

Adriamycin, bleomycin, 5-fluorouracil and methotrexate have been used in combination in a Phase II study and as adjuvant chemotherapy for patients with locally advanced bladder cancer. Although early results with metastatic disease showed considerable antitumor activity, longer follow-up has shown this drug combination to be ineffective. (Author abstract) (12 Refs)

27. TREATMENT OF INFILTRATING BLADDER CARCINOMA WITH SENSITIZED LYMPHOCYTES FROM PIGS AS IMMUNOTHERAPY COMBINED WITH RADIOTHERAPY.

Klippel KF, Di Sant'Agnese PA, Keys HM, Hamlin DJ
Klinik und Poliklinik, Klinikum der Johannes Gutenberg-Universitat Mainz, Langenbeckstrasse 1, D-6500 Mainz, W. Germany
Aktuel Urol; 13(1):48 1982

Previously published work of Hamlin, di Sant'Agnese, Keys, and C (Actuel Urol 13(1)+ 29-32, 1982), dealing with the treatment of infiltrating bladder carcinoma with the combination of sensitized pig lymphocytes and radiotherapy, is criticized as follows: transplants of human tissue into pigs should cause graft-versus-host (GVH) disease. Raw extract was not tested to confirmed the sensitization. Injection of such raw extracts into arteries of patients should cause embolization and necrosis of tumors; such necrosis cannot be interpreted as specific immune reaction. Lymphocytes of pigs also should cause GVH disease when injected into patients. Introduction of radiotherapy should further prevent any so-called immune reaction. (no Refs) (In GER)

28. TRANSITIONAL CELL CARCINOMA OF THE BLADDER DURING PREGNANCY: A CASE REPORT.

Keegan GT, Forkowitz MJ
Div. Urology, Scott and White Clinic, Temple, TX, 76508
Tex Med; 78(4):44-45 1982

Only seven cases of nonbilharzial carcinoma of the bladder during pregnancy have been reported. On Jan 25, 1978, we examined a 25-yr-old woman with hematuria and a history of dysuria, frequency, nocturia, and low-back pain. She was in her 37th wk of pregnancy. Using cystoscopy, we discovered a 1-cm papillary tumor on the left side of the posterior wall of the bladder. Six days after the tumor was resected, the patient had an uncomplicated vaginal delivery of a normal, full-term infant. The patient has had no recurrence of disease. This case demonstrates the importance of careful evaluation of hematuria, even when the patient is pregnant. (Author abstract) (14 Refs)

29. CALCULATION OF POTENTIAL BIAS IN THE ODDS RATIO ILLUSTRATED BY A STUDY OF SACCHARIN USE AND BLADDER CANCER.

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Environ Res; 27(2):298-306 1982

Criticisms of questionnaire studies often emphasize methodological weaknesses which, if unexamined, may lead to biased risk estimates. Observational studies of the relationship between saccharin use and the risk of bladder cancer illustrate this point. This paper describes the potential biases due to misclassification and to the use of prevalent rather than incident cases in a recent report by I.I. Kessler and J.P. Clark (1978, J Amer Med Assoc 240, 349-355). Assuming the true risk ratio is greater than unity, nondifferential misclassification of exposure leads to an observed odds ratio or relative risk closer to the null value. Differential misclassification of exposure results in either an overestimate or an underestimate of the true risk. Varying the sensitivity and specificity of the exposure among cases and controls alters the risks ratios dramatically. The use of prevalent rather than incident cases in a hospital-based-control study does not affect the risk measure unless it can be demonstrated that exposure differentially influences the force of morbidity or mortality. The exclusion of a large number of deceased cases in Kessler and Clark's report may underestimate the risk ratio by 18-28%. Unless other factors are discovered, the identified biases will not meaningfully alter the conclusion that there is no association between saccharin use and bladder cancer in Kessler and Clark's study. (Author abstract) (15 Refs)

30. OCCUPATIONAL BLADDER CANCER AND CIGARETTE SMOKING IN WEST YORKSHIRE.

Cartwright R
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Scand J Work Environ Health; 8(Suppl1):79-82 1982

Results of the preliminary analysis of the first 1,000 cases of bladder cancer pooled from three hospital districts, Huddersfield with both high mortality and morbidity, Bradford with high morbidity and low mortality, and Wakefield with both low morbidity and mortality, are presented. All cases prevalent at the onset of the study in 1978 together with all incident cases occurring since, up to 1980 were included. All prevalent cases were matched with one hospital referent and all incident cases with two. The following information was collected: identification, coffee and alcohol drinking habits, smoking habits, saccharin use, past medical history, past drug treatment, occupational history, hobbies, and family history. Results of the analysis for cigarette smoking showed a statistically significant risk for bladder cancer. The risks associated with the cases that had worked for at least 6 mo in seven risk occupations are summarized. The chemical industry workers included a preponderance of process workers in the dye manufacturing industry. Summary of the risk ratios for contemporaneous smokers and nonsmokers in three occupations is presented. The differences between the pair of risk ratios were statistically significant for dye manufacturers but not for dye users or printers. The age of workers at the beginning of work in the dye manufacturing industry influenced the subsequent risk of developing bladder cancer. The actual length of employment and the date of beginning the work were both important variables. (11 Refs)

31. CELL-SURFACE A, B, OR H-BLOOD-GROUP ANTIGENS IN UROTHELIAL CANCER.

Newman AJ, Graham MA, Carlton CE
Roy and Lillie Cullen Dept. Urologic Res., Baylor Coll. Medicine, Houston, TX
Cancer Bull; 34(1):7-9 1982

In order to evaluate the prognostic significance of the presence or absence of surface A, B, or H antigens in superficial bladder tumors, a retrospective longitudinal analysis of A, B, or H blood group antigens was performed on 516 bladder tumor specimens collected during the period 1955 to 1972 from patients with Stage A disease. The specific red cell adherence (SRCA) technique was used. A strong correlation was apparent between the presence or absence of A, B, and H group antigens and the propensity for recurrence with invasion in patients with superficial bladder tumors. Only 4% of the patients with lesions initially positive for SRCA subsequently developed invasive lesions, whereas 71% of the patients with initially negative SRCA tests ultimately had invasive cell carcinoma. Of the Grade I and II lesions that were negative for SRCA, 71% became invasive, compared to 75% of the Grade III lesions with initially negative SRCA results. Regardless of the source of tissue containing carcinoma in situ (CIS) or dysplasia (cystectomy specimen for invasive disease or biopsy near a superficial tumor), the vast majority of these areas showed deletion of A, B, or H antigens, indicating that the SRCA reaction has no value in predicting the subsequent clinical course of CIS or dysplasia. Prospective studies of the SRCA test and increased sensitivity for patients with blood type O must be accomplished before established therapies are altered. (13 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

32. LYMPHOGRAPHY AND PERCUTANEOUS LYMPH NODE BIOPSY IN CLINICALLY LOCALIZED CARCINOMA OF THE PROSTATE.

Dan SJ, Wulfsohn MA, Efremidis SC, Mitty HA, Brendler H
Dept. Radiology, Mount Sinai Hosp., One Gustave L. Levy Place, New York, NY, 10029
J Urol; 127(4):695-698 1982

Accurate staging of prostatic carcinoma requires determination of the status of the regional draining lymph nodes. Pelvic

lymphadenectomy is the definitive examination but has certain morbidity and even mortality. Lymphography is safe but may not be sufficiently accurate. A total of 41 patients with clinically localized disease and abnormal or suspicious lymphograms underwent percutaneous lymph node biopsy. Ten of 11 patients (91%) with abnormal lymphograms and 14/30 (47%) with suspicious lymphograms had positive cytology studies. Of the suspicious defects an unopacified void in a nodal chain most frequently was positive. Of 22 potentially curable patients with stages A and B1 disease 12 had metastatic disease. (Author abstract) (24 Refs)

33. STAGING ERRORS IN CLINICALLY LOCALIZED PROSTATIC CANCER.

Catalona WJ, Stein AJ
Dept. Surgery/Surgery Res., Jewish Hosp. St. Louis, 216 South Kingshighway, St. Louis, MO, 63110
J Urol; 127(3):452-456 1982

The interrelationship among tumor grade, local tumor extension, lymph node involvement and early treatment failure was examined in 96 consecutive patients with clinical stage A (11 patients) or B (85 patients) prostatic cancer who were considered potential candidates for radical prostatectomy. In this series 20 of the 82 patients (24%) who underwent radical prostatectomy had local tumor extension beyond the prostatic capsule and 27 of the 88 patients (31%) who had lymph node dissections had nodal involvement. Of the entire group of 96 patients 38 (40%) had either local extension and/or nodal involvement. A direct correlation was observed between clinical stage and the incidence of local tumor extension but not between clinical stage and nodal involvement. However, there was a striking correlation between surgical stage and lymph node involvement in patients who underwent radical prostatectomy. A direct correlation also was observed between tumor grade, and local extension and nodal involvement. Analysis of multiple parameters revealed that clinical stage and grade of tumor considered together were more predictive of nodal involvement than either parameter alone. Early treatment failures occurred in 5 patients, all of whom were understaged clinically. (Author abstract) (25 Refs)

34. PREVENTION OF URINARY TRACT INFECTION AND SEPSIS FOLLOWING TRANSRECTAL PROSTATIC BIOPSY.

Crawford ED, Haynes AL, Story MW, Borden TA
Div. Urology, Univ. New Mexico Sch. Medicine, Albuquerque, NM
J Urol; 127(3):449-451 1982

Transrectal biopsy is one of the more popular methods for the diagnosis of prostatic cancer. However, there is disagreement as to whether the use of prophylactic antimicrobials decreases the incidence of fever and urinary tract infections, which may follow this procedure. A prospective randomized double-blind study involving 63 patients was instituted to determine the efficacy of carbenicillin indanyl sodium in reducing these complications. The protocol consisted of administration of two tablets 4x daily of a placebo or the treatment drug 24 hr before and after biopsy. Clean catch urine cultures were obtained 24 hr before biopsy and at 48 hr and 2 wk after the procedure. Blood cultures were performed 15 min after biopsy. In addition, clinical parameters were monitored closely in the hospital for 48 hr after biopsy. A total of 48 patients was considered evaluable. Of 23 patients who received the study drug 2 (8.6%) had positive urine cultures at 48 hr compared to 9 of 25 (36%) from the placebo group. A similar result was observed from the 2-wk culture data, in which 2 of 23 patients (8.6%) in the treatment group had positive urine cultures as opposed to 5 of 25 (20%) receiving the placebo. Fever occurred in 48% of the placebo and in 17% of the carbenicillin groups. Our data indicate that prophylactic administration of carbenicillin indanyl sodium decreases the complications of fever and urinary tract infections following transrectal biopsy of the prostate. (Author abstract) (19 Refs)

35. ACCURACY OF FROZEN SECTION DETECTION OF LYMPH NODE METASTASES IN PROSTATIC CARCINOMA.

Catalona WJ, Stein AJ
Dept. Surgery, Jewish Hosp. St. Louis, 216 South Kingshighway, St. Louis, MO, 63110
J Urol; 127(3):460-461 1982

To examine the accuracy of frozen sections in the detection of pelvic lymph node metastases in patients with prostatic cancer, the results of frozen and paraffin sections were compared in 75 consecutive patients with clinical stage A or B prostatic cancer. Frozen sections were positive for cancer in 16 patients (21%), 14 of whom had gross lymphadenopathy, and in all cases cancer was confirmed on paraffin sections. Of 59 patients with negative frozen sections 11 (19%) had paraffin sections positive for cancer. However, in 10 of these 11 patients there were only one or two microscopic metastases. Thirteen other patients with normal-appearing lymph nodes did not have frozen sections obtained at the time of operation and metastases were not found on paraffin sections. There was a direct correlation between tumor grade and nodal involvement. The results suggest that frozen sections are of limited reliability in identifying lymph node metastases in patients who do not have gross lymphadenopathy. The extent to which this inaccuracy may result in the selection of inappropriate therapy remains to be determined. (Author abstract) (11 Refs)

36. RADICAL PROSTATECTOMY FOR STAGE B2 PROSTATIC CANCER.

Middleton RG, Smith JA
Div. Urology, Dept. Surgery, Univ. Utah Coll. Medicine, Salt Lake City, UT
J Urol; 127(4):702-703 1982

It has been suggested that patients with large, localized prostatic carcinomas (Stage B2) may not be good candidates for radical prostatectomy. Inaccuracy of the rectal examination is a particular problem with a lesion of this type. Unrecognized extension beyond the prostatic capsule, especially into the seminal vesicles, is well known and unsuspected involvement of pelvic lymph nodes may be present. Patients with clinical B2 prostatic carcinoma who seemed to be potentially good candidates for radical prostatectomy have been subjected to pelvic lymphadenectomy for staging. All of these patients have had a normal chest x-ray, serum acid phosphatase, excretory urogram and radioisotope bone scan. During a 10 1/2-yr interval 87 patients with clinical Stage B2 prostatic carcinoma underwent staging pelvic lymphadenectomy. Of these patients 24 (28%) had positive pelvic lymph nodes and were excluded from consideration for radical prostatectomy. Fifty patients with clinical Stage B2 prostatic carcinoma and proved negative pelvic lymph nodes have been subjected to radical prostatectomy: 43 (86%) had tumor confined to the prostate on histologic examination of the radical prostatectomy specimen, 6 (12%) had microscopic capsular invasion and 2 (4%) had microscopic invasion of the seminal vesicles. Radical prostatectomy seems justified when there is a high likelihood that the tumor truly is

confined to the substance of the prostate. In our experience pelvic lymphadenectomy has enabled us to select appropriate patients with Stage B2 prostatic carcinoma for radical prostatectomy. (Author abstract) (9 Refs)

37. RADICAL PERINEAL PROSTATECTOMY FOR CLINICAL STAGE B2 CARCINOMA OF THE PROSTATE.

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J Urol; 127(4):704-706 1982

To refine the criteria for radical surgery in clinical Stage B2 prostatic cancer a retrospective study was made of 53 patients who underwent radical perineal prostatectomy between 1951 and 1963. The 15-yr survival free of tumor was 25%, significantly less than the 51% survival rate in a series of patients with clinical B1 disease undergoing radical perineal prostatectomy during the same period. Sixty-six per cent of the patients had extraprostatic extension of tumor on histological examination. The 15-yr survival free of tumor in these patients was only 13%, whereas those patients with tumors histologically confined to the prostate had a 15-yr survival rate of 50%, equal to an age-matched control population. Thus, although prolonged survival was demonstrated in patients without extraprostatic extension only a third of all clinical B2 cases were in this favorable category. Consequently, until improved reliable techniques for detection of extra-prostatic extension become available it seems unwise to recommend radical prostatectomy as the treatment of choice for all men with clinical Stage B2 disease. (Author abstract) (18 Refs)

38. ADJUNCTIVE THERAPY WITH INTERSTITIAL IRRADIATION FOR PROSTATE CANCER.

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Urology; 19(4):395-398 1982

Thirty patients with clinically localized adenocarcinoma of the prostate underwent simultaneous staging pelvic lymphadenectomy and interstitial irradiation. Patients were followed for 18 to 45 months with regard to progression of disease and development of long-term complications. Upstaging to Stage D1 by virtue of discovering pelvic node involvement was noted in 16 patients (53.3%). Subsequent disease progression (defined as development of bone or soft tissue metastasis) was seen in 9 of 16 upstaged patients with an average time to progression of 12.2 months. Three Stage D1 patients have died with an average time to death of 19.6 months. Only one patient whose lymphadenectomy was negative has experienced disease progression, and none have died. Adjuvant chemotherapy (cyclophosphamide and doxorubicin hydrochloride) was given to nine upstaged patients, in only three did disease progress. In contrast, in 6 of 7 upstaged patients not receiving chemotherapy metastatic disease developed, with an average time to progression of 10.3 months. In an attempt to improve local tumor control achieved by interstitial irradiation alone, 18 patients received additional external beam radiation therapy to the prostate, in doses ranging from 2,000 to 4,000 rad. There were 16 long-term complications in the 30 patients, 75% of which were seen in patients receiving added external beam irradiation. (Author abstract) (14 Refs)

39. GONADOTROPIN-RELEASING HORMONE ANALOGUES FOR PROSTATE CANCER: UNTOWARD SIDE EFFECTS OF HIGH-DOSE REGIMENS ACQUIRE A THERAPEUTICAL DIMENSION.

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Eur Urol; 8(3):129-134 1982

Gonadotropin-releasing hormone (Gn-RH), a hypothalamic decapeptide, mediates the synthesis and release of pituitary luteinizing hormone (LH). Synthetic Gn-RH analogues with prolonged duration of action are therapeutically administered with 'pro-fertility' intention to overcome endogenous Gn-RH deficiency, ie hypogonadotropic hypogonadism and related disorders. When Gn-RH analogues are chronically administered in high supraphysiological dosages, however, a paradoxical effect of pituitary overstimulation becomes evident: gonadotropin release is reduced, Leydig cell responsiveness is impaired, and testosterone secretion is blocked to castrate levels. Metabolic mechanisms involved include desensitization of the pituitary to Gn-RH, down-regulation of Gn-RH receptors, the depletion of the releasable LH pool, the breakdown of physiological feedback mechanisms, as well as direct interactions of the Gn-RH analogue with the Leydig cell. It is tempting to assume that, on the basis of this untoward side effect, high dose Gn-RH analogues will acquire a therapeutical dimension in the palliative treatment of prostate cancer. The therapeutical effect of castrate levels of testosterone is achieved without orchiectomy, cardiovascular side effects of estrogens are avoided, and the drug is conveniently applicable via the pernasal route. From the data available today Gn-RH analogues in overstimulatory dosage can be expected to be safe and effective in the palliative treatment of prostate cancer and would thus prove a true alternative to conventional contrasexual measures. (Author abstract) (35 Refs)

40. DMF REGIMEN FOR HORMONE-REFRACTORY ADENOCARCINOMA OF THE PROSTATE - THE FIRST 42 PATIENTS.

Logothetis CJ, Von Eschenbach AC, Samuels ML, Trindade A, Johnson DE

Dept. Internal Medicine, Univ. Texas M.D. Anderson Hosp. and Tumor Inst., Houston, TX

Cancer Bull; 34(1):26-28 1982

Experiences with a regimen of doxorubicin [50 mg/square meter (m2), Day 1] + mitomycin C (10 mg/m2, Day 1) + 5-fluorouracil (750 mg/m2, Days 1 and 2), given at 3-wk intervals and then to marrow tolerance at increasing intervals, to 42 patients (mean age 63.5 yr) with histologically documented adenocarcinoma of the prostate are reported. The patients had all previously had hormone therapy. Twenty-five patients had osseous metastasis only; 17 had evidence of visceral involvement. Significant improvement in length of survival was evident in both clinical categories, with clearest results in the group with widely disseminated visceral disease. A consistent true objective response rate of 50% was demonstrated in the total population: 44% for the group with osseous metastases and 59% for the group with visceral metastases. Two patients died during myelosuppression induced by drug dosages and prior irradiation. The combination therapy seems to be superior to single agent regimens, but duration of response and survival benefit are uncertain. (4 Refs)

41. CYCLOPHOSPHAMIDE, METHOTREXATE AND 5-FLUOROURACIL COMBINATION CHEMOTHERAPY VERSUS CHLOROETHYL-CYCLOHEXY-NITROSOUREA IN THE TREATMENT OF METASTATIC PROSTATIC CANCER.

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J Urol; 127(3):462-465 1982

In a prospective, randomized study the effect of cyclophosphamide, methotrexate and 5-fluorouracil combination chemotherapy was compared to the single agent, chloroethyl-cyclohexy-nitrosourea, in the treatment of hormonally refractive metastatic prostatic carcinoma. All patients could be evaluated and were followed for at least 2 yr or until death. Responses were defined by the National Prostatic Cancer Project criteria. Of 20 patients who received cyclophosphamide, methotrexate and 5-fluorouracil 3 (15%) had partial (median duration of 2.5 mo), 4 (20%) had stable (median duration of 5 mo) and 13 had progression of the disease. Of 20 patients who received chloroethyl-cyclohexy-nitrosourea none had a partial response, 6 (30%) had stability (median duration of 6.2 mo) and 13 had progression of the disease. The over-all response rate for patients receiving cyclophosphamide, methotrexate and 5-fluorouracil was 35% (stable plus partial regressions) and it was 30% for those receiving chloroethyl-cyclohexy-nitrosourea (stable only). Subjective improvement was noted in all seven patients who responded to combination chemotherapy and in 3/6 patients who responded to the single agent. After two courses resistant patients were crossed over to the opposite regimen and none had an objective, stable or subjective response. Although the duration of response was short (2 to 6 mo) patients with partial regressions or stabilized disease survived longer (p less than 0.05) than patients whose disease progressed (52 vs 24 wk, respectively). The mean interval from diagnosis to chemotherapy (lead time) was 40 mo for patients who responded to chemotherapy compared to 19 mo for those with progression, which suggested a slower growing pattern of disease in those who did respond. There was no improvement in cohort survival with either treatment regimen. Over-all response rates to cyclophosphamide, methotrexate and 5-fluorouracil were not superior to reported responses to cyclophosphamide alone, and both treatment regimens appeared to be only marginally effective in the treatment of endocrine-resistant, advanced prostatic cancer. (Author abstract) (17 Refs)

42. CUTANEOUS AND SUBCUTANEOUS METASTASES FROM CARCINOMA OF PROSTATE.

Katske FA, Waisman J, Lupu AN
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Urology; 19(4):373-376 1982

Secondary cutaneous and sc metastases originating from a visceral carcinoma are relatively uncommon and are associated most frequently with mammary, pulmonary, renal, and colonic cancers. Cutaneous and sc deposits from cancer of the prostate must be classified as extremely rare, eg, only one solitary cutaneous metastatic carcinoma of prostatic origin was seen among 136,017 surgical and postmortem specimens submitted to the Department of Pathology at UCLA Hospital from male patients 35 yr of age and older during the yr between 1955 and 1980. Recently we observed a second case. A discussion of these two cases and a review of the English literature are reported. (Author abstract) (21 Refs)

43. ORBITAL METASTASES FROM PROSTATIC CARCINOMA.

Tertzakian GM, Herr HW, Mehta MB
Div. Urology, Univ. California, Irvine, CA
Urology; 19(4):427-429 1982

Orbital metastases from prostatic cancer is rare. Herein we present four patients with metastatic carcinoma involving the orbit. Metastatic carcinoma of the prostate should be considered in the elderly male with proptosis. (Author abstract) (9 Refs)

44. CARCINOMA OF PROSTATE PRESENTING AS INTRACRANIAL TUMOR WITH MULTIPLE CRANIAL NERVE PALSIES.

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Urology; 19(4):433-435 1982

Carcinoma of the prostate is one of the commonest of cancers occurring in men over the age of 50 years. A small focus of cancer in the prostate can be active biologically and give rise to metastases without producing any symptoms of bladder neck obstruction. In such cases, the attention may be directed away from the prostate. A review of literature reveals that practically no organ in the body is exempt from metastasis from a carcinoma of the prostate. A routine rectal examination and if necessary a biopsy of the prostate should not be omitted in any patient beyond the age of 50 years. A case of carcinoma of prostate presenting as an intracranial tumor causing multiple cranial nerve palsies is presented. This is the first report of such a case. (Author abstract) (11 Refs)

45. PLACENTA-LIKE ISOENZYME OF ALKALINE PHOSPHATASE IN PROSTATIC CANCER.

Schmidt JD, Slack NH, Chu TM, Murphy GP
Div. Urology H-897, Univ. California Medical Center, 225 Dickinson St., San Diego, CA, 92103
J Urol; 127(3):457-459 1982

Assays for serum placenta-like (Regan) isoenzyme of alkaline phosphatase were done on 157 samples from 96 patients with prostatic cancer entered into various National Prostatic Cancer Project protocols. Elevated placenta-like isoenzyme levels were found in 19 patients (20%). Increased isoenzyme activity was seen in some patients with early clinical stages of the disease (B1 and B2), as well as in those with advanced disease. As in other reports results were not consistent in any individual patient. No correlations could be made between elevated isoenzyme activity and either stage of the disease or response to therapy. The placenta-like isoenzyme of alkaline phosphatase appears to be a nonspecific oncodevelopmental marker that is not helpful alone as a diagnostic indicator but that may be promising as part of a profile of markers for a patient with prostatic cancer. (Author abstract) (10 Refs)

46. CORRELATION OF PROSTATIC NUCLEAR ANDROGEN RECEPTOR CONTENT WITH DURATION OF RESPONSE AND SURVIVAL FOLLOWING HORMONAL THERAPY IN ADVANCED PROSTATIC CANCER.

Trachtenberg J, Walsh PC
Dept. Urology, Royal Victoria Hosp., 687 Pine Ave. West, Montreal, Quebec, H3A 1A1, Canada
J Urol; 127(3):466-471 1982

To assess whether pretreatment prostatic androgen receptor measurements would be of value in predicting the response to hormonal therapy in patients with prostatic cancer 23 men with metastatic carcinoma of the prostate underwent prostatic biopsy before treatment. Cytosolic and nuclear prostatic androgen receptor contents were measured by a single saturating dose, dextran-charcoal assay. All patients had measurable levels of androgen receptor in prostatic tissue and all demonstrated objective evidence of improvement following hormonal therapy. Thus, if androgen receptor measurements are to be useful in predicting prognosis correlations between quantitative levels of receptor and quantitative aspects of response must be established. In our study response was quantitated by measuring the duration of response and survival following hormonal treatment. The strong correlation between duration of response and survival (p less than 0.01) demonstrated herein suggests that survival in these patients is related directly to the duration of time patients respond to hormonal therapy. Neither total cellular nor cytosolic androgen receptor content correlated with response. However, nuclear androgen receptor content correlated with the duration of response and survival following hormonal treatment (p less than 0.05). Furthermore, in patients with nuclear receptor levels less than 110 fmol per mg deoxyribonucleic acid the duration of response (7.1 plus or minus 3.8 mo) and survival (14.4 plus or minus 5.9 mo) was significantly shorter than in patients with higher levels of nuclear receptor (17.3 plus or minus 10.4 and 24.7 plus or minus 8.8 mo, respectively (p less than 0.05)). These findings, which are the first report of a correlation between nuclear androgen receptor content and hormonal responsiveness, suggest that measurements of nuclear receptor may aid in identifying those patients unlikely to obtain prolonged response from hormonal therapy. (Author abstract) (25 Refs)

47. PROSTACYCLIN IN PROSTATIC CANCER: A BETTER MARKER THAN BONE SCAN OR SERUM ACID PHOSPHATASE?

Khan O, Hensby CN, Williams G
Urology Unit, Dept. Surgery, Hammersmith Hosp., Ducane Road, London W12 0HS, England
Br J Urol; 54(1):26-31 1982

Prostaglandins have been implicated in the development and spread of malignant tumors. Gas chromatography and mass spectrometry (GC-MS) analysis of prostaglandins in benign and malignant prostatic tissue showed that prostacyclin (PGI2), a prostanoid known to induce bone resorption, was the major component. PGI2 is hydrolysed to 6-oxo-PGF1alpha. Plasma levels of 6-oxo-PFG1alpha were measured as an index of PGI2 formation in patients with benign and malignant prostatic disease. The mean plasma 6-oxo- level in an age-matched control group was comparable to that of patients with benign prostatic hypertrophy. A significant elevation was found in patients with a TO carcinoma (p less than 0.05). Plasma 6-oxo- levels rise with advancing disease and the concentration varied with the degree of tumor differentiation. Plasma 6-oxo- levels were a more accurate monitor of disease progression than tartrate labile acid phosphatase in patients with M1 carcinoma. Persistently elevated levels were associated with a bad prognosis. (Author abstract) (29 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

48. COMPUTERIZED TOMOGRAPHY: HOW ACCURATE FOR ABDOMINAL STAGING OF TESTIS TUMORS?

Richie JP, Garnick MB, Finberg H
75 Francis St., Boston, MA, 02115
J Urol; 127(4):715-717 1982

To assess the ability of computerized tomography to predict correctly the presence of retroperitoneal lymphadenopathy, a prospective study was performed on 30 patients with all stages of testis tumor. All patients underwent a computerized tomography scan within 1 wk before retroperitoneal lymphadenectomy and the results then were correlated with gross and histologic findings. The computerized tomography scan suggested retroperitoneal lymphadenopathy in 14 patients, in 1 of whom no retroperitoneal lymphadenopathy was found at exploration (false positive, 7%). The sensitivity (computerized tomography positive divided by true positive) was 65% and the specificity (computerized tomography negative divided by true negative) was 90%, for an over-all accuracy of 73%. Most importantly, however, 7 of the 16 computerized tomography scans (44%) interpreted as normal proved to be false negative. Of these seven scans five were in patients with tumors classified as Stage B2 or greater. We conclude that the computerized tomography scan, when positive, is highly likely to detect metastatic nodal involvement. However, the false negative rate, even in patients with tumor-filled lymph nodes 2 to 3 cm in diameter, limits the reliability of a negative computerized tomography scan to exclude metastases. Technological improvements are needed to refine the technique and, thus, to reduce the false negative rate. (Author abstract) (17 Refs)

49. COMPARATIVE VALUE OF COMPUTER TOMOGRAPHY AND LYMPHOGRAPHY IN EVALUATING THE SPREAD OF THE MALIGNANT PROCESS IN PATIENTS WITH TESTICULAR TUMORS.

Zaborowski Z.
Zaklad Rentgenodiagnostiyki, Instytut Onkologii, ul. Wawelska 15, 02-034 Warsaw, Poland
Nowotwory; 31(3/4):207-216 1981

The value of computer tomography (CT) and lymphography (LG) in assessing the spread of testicular carcinoma was studied in 45 patients (av age 35.2 yr). Seminoma was diagnosed in 18 patients, embryonal carcinoma in 5, malignant teratoma in 6, mixed tumor in 6, other tumors in 10. The computer tomographic findings were positive in 33/45 cases, negative in 7 and uncertain in 5. CT revealed involvement of lumbar lymph nodes in 23 cases, of lumbar, iliac and presacral lymph nodes in 8, and of internal iliac lymph nodes in 2. The results of lymphography, performed in 22 patients, were positive in 12/22 patients (including 9 with positive and 3 with uncertain computer tomographic findings), negative in 7 (including 6 with negative and 1 with uncertain computer tomographic findings), and uncertain in 3 (including 1 each with positive, negative and uncertain computer tomographic findings). LG and CT were found to be mutually supplementary: CT was more useful in advanced stages of the disease and for evaluating the extent of

lymph node involvement for therapy planning and therapy evaluation, while LG often makes possible the early diagnosis of changes when the lymph nodes are not yet recognizable by CT or when the computer tomographic findings are uncertain. (14 Refs) (In POL)

50. ACCURACY OF PREOPERATIVE STAGING IN STAGES A AND B NONSEMINOMATOUS GERM CELL TESTIS TUMORS.

Rowland RG, Weisman D, Williams SD, Einhorn LH, Klatte EC, Donohue JP
Dept. Urology, Medicine and Radiology, Indiana Univ. Sch. Medicine, 11 W. Michigan St., Indianapolis, IN, 46223
J Urol; 127(4):718-720 1982

Primary radical retroperitoneal lymphadenectomy currently is used for pathologic staging of nonseminomatous germ cell testis tumors unless advanced disease is present initially. Many attempts have been made for accurate staging of these tumors preoperatively. We reviewed the accuracy of alpha-fetoprotein and beta-human chorionic gonadotropin serum markers, and abdominal ultrasound and computerized tomography scans in preoperatively staging 64 patients with stage A or B nonseminomatous germ cell testis tumors seen at our university between 1977 and 1980. The results of the preoperative staging studies were correlated with the pathologic stages obtained by retroperitoneal lymphadenectomy. Over-all, the correct results were obtained in 61% of the patients with alpha-fetoprotein, 64% with beta-human chorionic gonadotropin, 53% with ultrasound and 67% with computerized tomography. Occasionally, alpha-fetoprotein or beta-human chorionic gonadotropin, or computerized tomography alone would be positive in a patient with stage B disease but ultrasound was never positive unless the computerized tomography scan also was positive. Based upon these results ultrasound scanning has been eliminated from the preoperative staging routine. Also, since the over-all accuracy in preoperatively evaluating patients with stages A and B nonseminomatous germ cell testis tumors is 70% retroperitoneal lymphadenectomy still is needed for accurate staging as well as for providing therapeutic benefit in the majority of patients with stage B disease. (Author abstract) (22 Refs)

51. CORRELATION OF SERUM TUMOR MARKERS AND LYMPHANGIOGRAPHY WITH DEGREES OF NODAL INVOLVEMENT IN SURGICAL STAGE II TESTIS CANCER.

Vugrin D, Whitmore WF, Nisselbaum J, Watson RC
Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
J Urol; 127(4):683-684 1982

There were 60 patients at our cancer center who underwent serum tumor marker studies (beta subunit of human chorionic gonadotropins and alpha-fetoprotein) and pedal lymphangiography before retroperitoneal lymph node dissection. Surgical stage II cases were divided according to tumor, node and metastasis staging. Beta-human chorionic gonadotropin and/or alpha-fetoprotein was elevated in 9% (1/11) of the N1 cases, 36% (5/14) of the N2A cases, 50% (13/26) of the N2B cases and 89% (8/9) of the N3 cases. Lymphangiography was positive or suspicious in 9% (1/11) of the N1 cases, 36% (5/14) of the N2A cases, 46% (12/26) of the N2B cases and 56% (5/9) of the N3 cases. Serum tumor markers and lymphangiography combined suggested lymph node metastases in 18% (2/11) of the N1 cases, 50% (7/14) of the N2A cases, 73% (19/26) of the N2B cases and 100% (9/9) of the N3 cases. We conclude that tumor markers and lymphangiography measurements are equally effective in the diagnosis of retroperitoneal lymph node metastases and that diagnostic accuracy is enhanced significantly by combining these 2 modalities. Retroperitoneal lymph node dissection remains the most reliable staging procedure. Reports on the accuracy of clinical staging should be correlated with subcategories of stage II disease. (Author abstract) (8 Refs)

52. NECESSARY EXTENT OF LYMPH NODE DISSECTION IN TESTICULAR TUMOURS. A HISTOPATHOLOGICAL INVESTIGATION.

Hermanek P, Sigel A
Dept. Surgical Pathology, Maximilianspiatz, D-8520 Erlangen, W. Germany
Eur Urol; 8(3):135-144 1982

The findings of a prospective topographic histopathological study of the lymphatic spread of testicular tumors are reported. The study includes 150 patients, 9 of whom were subjected to exploratory laparotomy while 141 patients underwent retroperitoneal lymph node dissection. Lymphatic spread occurs in accordance with a quite definite pattern, atypical metastases were observed in only 3 of the 150 patients. The material was analyzed with respect to the possibilities of using limited unilateral dissections. The results show that by observing appropriate safety precautions, including frozen section histology, limited unilateral dissections can be used more frequently. (Author abstract) (38 Refs)

53. COMPLICATIONS OF RETROPERITONEAL LYMPHADENECTOMY IN THE MANAGEMENT OF NONSEMINOMATOUS TUMORS OF THE TESTIS.

Waters WB, Garnick MB, Richie JP
Dept. Surgery and Urology, Peter Bent Brigham of Brigham and Women's Hosp., Boston, MA
Surg Gynecol Obstet; 154(4):501-504 1982

Retroperitoneal lymphadenectomy is the definitive operation for the accurate pathologic staging and treatment of Stage A, B1 and B2 nonseminomatous germ cell tumors of the testis. A review of 33 patients who underwent thoracoabdominal lymphadenectomy during a 3 yr period yielded evidence of four minor complications and one major complications that resulted in the only operative death. The thoracoabdominal approach is preferred and allows one to palpate the ipsilateral thoracic cavity for unsuspected pulmonary metastasis, to perform with greater ease bilateral dissection that includes a left suprahilar dissection, to use an extraperitoneal approach in patients without bulky abdominal disease - Stage B3, and C - and can be performed safely and with minimal morbidity and mortality by the well trained urologic surgeon. (Author abstract) (14 Refs)

54. MANAGEMENT OF INFERTILITY FOLLOWING TREATMENT FOR TESTICULAR CARCINOMA.

Lipshultz LI
Dept. Surgery, Div. Urology, Univ. Texas Medical Sch., Houston, TX
Cancer Bull; 34(1):31-32 1982

The management of possible subfertility in patients with testicular cancer is discussed in terms of the predominant gonadotoxic modality. Effects of irradiation, chemotherapy, and lymphadenectomy are discussed separately for clarity, although in practice the methods are often used in combination. Cryopreservation of sperm, function of the 'normal' testis, and sympathomimetic drugs are considered. (11 Refs)

55. EJACULATION AND FERTILITY AFTER EXTENDED RETROPERITONEAL LYMPH NODE DISSECTION FOR TESTICULAR CANCER.

Narayan P, Lange PH, Fraley EE
(c/o Lange) Univ. Minnesota Hosp., Box 394 Mayo, Minneapolis, MN, 55455
J Urol; 127(4):685-688 1982

We studied ejaculation and fertility in 55 men who had undergone suprahilar extended retroperitoneal lymphadenectomy for nonseminomatous testicular cancer between 1972 and 1980. Antegrade ejaculation had returned spontaneously in 25 patients, with sperm counts of 35 to 190 million per ml, and normal morphology and motility in 20. The other five men either refused to provide semen for analysis or had had vasectomies but all had fathered children postoperatively. Ten men in whom antegrade ejaculation had not returned spontaneously were treated with sympathomimetic drugs. Antegrade ejaculation was induced in five patients, one of whom fathered a child while taking the drugs. Two other patients who had only small volumes of ejaculate also responded well to sympathomimetic drugs. A therapeutically sound retroperitoneal node dissection can be performed for testicular cancer without impairing fertility permanently in a significant number of patients. (Author abstract) (21 Refs)

56. CANCER OF THE TESTIS.

Paulson DF, Einhorn L, Peckham M, Williams SD
Div. Urology, Duke Univ. Medical Center, Durham, NC
Cancer - Principles and Practice of Oncology. DeVita VT, Hellman S, and Rosenberg SA, ed. Philadelphia, Lippincott, 1926 pp., 1982.

Histologic patterns, etiology and epidemiology, clinical presentation, physical examination, diagnosis, staging, serum marker proteins, and clinical management of testicular tumors are reviewed. Treatment requires eradication of all detectable disease at the lowest risk to the patient. Until it is demonstrated that retroperitoneal lymph node dissection (RLND), which is of proven diagnostic and therapeutic value, poses a greater hazard than the failure to detect disseminated disease, RLND must remain prominent in the treatment plan for seminomas and nonseminomatous germ cell tumors of the testis beyond the early stages. Combinations of cis-diamminedichloroplatinum(II) (DDP), vincristine (0.3 mg/kg), and bleomycin (with or without adriamycin) may lead to a projected cure rate of 70-80% in patients with Stage III nonseminomatous tumors, which is higher than the surgical cure rate for Stage II disease. Radiotherapy (RT) may be as effective as RLND in controlling retroperitoneal disease, but RT (particularly to supradiaphragmatic areas) might compromise the bone marrow and impair the efficacy of subsequent chemotherapy. Regardless of the treatment given, tumor vol affects response to therapy. Treatment of bulky disease should be planned so as not to compromise subsequent therapy. It is suggested that initial chemotherapy, followed by resection of residual tumor and RT if the resection margins are positive, may provide more effective control of bulky retroperitoneal disease. Initial surgical debulking destroys tissue planes which could be used at a second attempt at RLND after chemotherapy. (112 Refs)

57. SERUM FERRITIN AS A THIRD MARKER IN GERM CELL TUMORS.

Grail A, Bates G, Ward AM, Jones WG, Hancock BW
(c/o Hancock) Dept. Medicine, Royal Hallamshire Hosp., Glossop Road, Sheffield S10 2JF, England
Eur J Cancer Clin Oncol; 18(3):261-269 1982

Serial measurements of serum ferritin have been assessed as an additional marker in a study of 12 patients with germ cell tumors. The standard markers, serum AFP and beta HCG, were also assessed serially. During treatment elevated levels of serum ferritin were detected in 10 patients, elevated AFP in 10 patients and elevated beta HCG in 6 patients. A poor prognosis was associated with persistently raised serum ferritin and either, or both, elevated AFP and beta HCG levels. Decreasing levels of serum ferritin indicated favorable response to treatment; rising values were associated with recurrence or dissemination of tumor. Even if serum ferritin cannot be classed specifically as a tumor product, it may be useful in the early detection of residual or recurrent tumor. (Author abstract) (20 Refs)

58. HLA ANTIGENS IN PATIENTS WITH GERM CELL CANCERS OF THE TESTIS.

Pollack MS, Vugrin D, Hennessy W, Herr HW, Dupont B, Whitmore WF
(c/o Vugrin) Solid Tumor Service, Memorial Sloan-Kettering, Cancer Center, New York, NY, 10021
Cancer Res; 42(6):2470-2473 1982

The expression of HLA-A, -B, -C, and -DR antigens has been analyzed in 145 unrelated Caucasian patients with germ cell tumors of the testis. Eighteen of these patients had pure seminoma, while the remaining patients had nonseminomatous tumors with embryonal carcinoma, teratocarcinoma, choriocarcinoma, and/or yolk sac components, with or without seminoma. Increases were noted in the frequencies of Aw33, B5, DR5, and DRw6 among the patients with pure seminoma, A3 and B7 among the patients with embryonal carcinoma with or without seminoma, and Aw32 among the patients with yolk sac tumor components. A decrease in the frequency of HLA-DR3 was noted in all patient subgroups, although none of these differences were statistically significant after correction for the number of antigens tested. HLA typing results for three affected brothers of patients indicate that, in each family, the affected sibling pair share at least one HLA haplotype. The etiological and prognostic significance of this finding and of the increases in a few HLA antigen frequencies in particular patient groups and the overall decrease in DR3 remaining to be determined. (Author abstract) (11 Refs)

TUMORS OF THE PENIS AND SCROTUM

59. CARCINOMA OF THE PENIS. ANALYSIS OF 219 CASES.

Narayana AS, Olney LE, Loening SA, Weimar GW, Culp DA
Dept. Urology, Univ. Iowa Hosp. and Clinics, Iowa City, IA, 52242
Cancer; 49(10):2185-2191 1982

Carcinoma of the penis is rare in this country. A total of 219 patients diagnosed to have carcinoma of the penis were analyzed retrospectively. The primary penile lesion was treated by partial amputation in 160 patients. Forty-two patients had inguinal node dissection. Forty-six patients received radiation therapy to the inguinal region. Sixty-five percent of the patients with no palpable nodes at initial diagnosis survived for 6 or more yr. Twenty-eight percent of the patients with palpable nodes survived for 3-5 yr, and 15% for 6 or more yr. Ten percent of the patients died of a second primary tumor. (Author abstract) (28 Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

60. FINE-NEEDLE ASPIRATION OF METASTATIC LESIONS AND REGIONAL LYMPH NODES IN GENITOURINARY CANCER.

Wajsman Z, Gamarra M, Park JJ, Beckley SA, Pontes JE, Murphy GP

Dept. Urologic Oncology, Roswell Park Memorial Inst., Buffalo, NY, 14263

Urology; 19(4):356-360 1982

A percutaneous fine-needle aspiration biopsy of metastatic tumor and/or retroperitoneal, pelvic, or abdominal lymph nodes was accomplished in 101 patients. A diagnosis of metastatic disease was confirmed by this method in 49 patients. In 26 patients, surgical excisional biopsy or exploratory laparotomy was avoided. An unknown pelvic mass causation was diagnosed in three patients. In 15 of 57 patients with localized bladder, prostate, or testis cancer, involvement of regional lymph nodes was confirmed by transabdominal fine-needle aspiration. All 57 transabdominal aspirations were performed without complications. The method is inexpensive, safe, and can have a high accuracy in diagnosing a local tumor spread or distant metastases. (Author abstract) (12 Refs)

61. TRANSCATHETER MANAGEMENT OF THE CANCER PATIENT.

Wallace S, Chuang VP

Dept Diagnostic Radiology, Univ. Texas System Cancer Center, Houston, TX

Cancer - Principles and Practice of Oncology. DeVita VT, Hellman S, and Rosenberg SA, ed. Philadelphia, Lippincott, 1926 pp., 1982.

Use of percutaneous transcatheter ia infusion and occlusion for treatment of cancer is reviewed. Percutaneous techniques allow ready access to the vascular supply of the tumor with an associated decrease in the morbidity and mortality compared with surgical approaches. Ia infusion exposes the tumor to a high local concentration of the chemotherapeutic agent without increasing toxicity. Transcatheter embolization is indicated for control of hemorrhage; preoperatively, for facilitating resection by decreasing blood loss and operating time; for inhibiting tumor growth; for relief of pain by decreasing tumor bulk; and, perhaps, for stimulating an immune response to the ischemic neoplasm. Results of treating 100 patients with renal carcinoma by transcatheter ia tumor embolization using absorbable gelatin sponge and stainless steel coils are reported. Minor complications included flank pain, fever, anorexia and nausea, paralytic ileus, and hypertension. Serious complications included renal failure (2 patients) and unintentional embolization due to the gelatin sponge and steel coil. Transcatheter management of liver tumors, whether primary or secondary, by infusion and occlusion may be useful. Ia infusion of drugs has been used for local management of pain and for limb salvage procedures in patients with bone tumors. Transcatheter arterial occlusion has been used to relieve pain from metastases, preoperatively to decrease vascularity prior to resection, and as definitive therapy for giant cell tumors and aneurysmal bone cyst. Bilateral internal iliac artery infusion of chemotherapeutic agents has been used to treat cancer of the bladder, cervix, prostate, ovary and recurrent colorectal carcinoma. (81 Refs)

62. TREATMENT OF IMPOTENCY CAUSED BY CANCER THERAPY - THE INFLATABLE PENILE PROSTHESIS.

Scott FB, Light JK, Fishman IJ

Dept. Urology, Baylor Coll. Medicine, Houston, TX

Cancer Bull; 34(1):33-37 1982

Experiences of 48 patients made impotent as a result of radical cancer therapy who received an inflatable silicone rubber prosthesis are described. Surgical procedures, operation of the device, and the results of a follow-up questionnaire received from 39 male patients and 31 female partners are discussed. Erection was restored in 47/48 patients. Review of the questionnaires revealed that patients were unprepared for the consequences of impotency on their lives. Implantation of the penile prosthesis was regarded as a moderately painful operation that allowed resumption of sexual activity within 3-6 wk. The ability for intromission was restored, intercourse was perceived as equal to or better than before, and partner satisfaction with the performance of the device in terms of restoring a satisfactory relationship appeared high, based on a 100% recommendation of the procedure to other couples in similar circumstances. (4 Refs)

63. PARANEOPLASTIC ENDOCRINOPATHIES ASSOCIATED WITH NONRENAL GENITOURINARY TUMORS.

Altaffer LF

Dept. Urology, Naval Regional Medical Center, Camp Lejeune, NC

J Urol; 127(3):411-416 1982

The ectopic or inappropriate production of parathyroid hormone (PTH), catecholamines (CTA), serotonin (ST), human chorionic gonadotropin (HCGT), adrenocorticotropic hormone (ACTH), antidiuretic hormone (ADH), calcitonin, estrogens (ES), human placental factor (HPF), erythropoietin, insulin-like substances, and prostaglandins associated with various renal tumors is reviewed. Several case reports of apparent PTH secretion by urothelial tumors exist. In all of the cases resolution of the hypercalcemia followed definite treatment of the cancer. Diagnosis of pheochromocytoma is made by measuring elevated serum, urinary CTA and metabolites. Prognosis is generally good but long-term follow-up with urinary levels of CTA or the metabolites is recommended. Signs and symptoms of some carcinoid tumors are probably caused by excessive production of ST. The secretion of HCGT by testicular neoplasms is well known and the use of HCGT as a tumor marker is applied in practice. ACTH was identified in three cases of carcinoma of the prostate. In 1969, a case of carcinoma of the prostate with evidence of ectopic secretion of ADH by the neoplasm was reported. The secretion of a thyroid stimulating hormone-like substance has been reported in association with trophoblastic tumors in women and in two cases of testis tumors. The secretion of ES, androgens, pregnanediol, and luteinizing hormone, has been associated with Leydig cell tumors, gonadal stromal tumors, and gonadoblastomas. The identification of HPF in the syncytiotrophoblastic cells in malignant teratoma of the testis was reported in 1966. Hypoglycemia has been shown to be associated with a variety of extrapancreatic tumors. Hormonally active tumors frequently demonstrate undifferentiated or anaplastic histologic patterns and, in general, patients with hormonally active tumors appear to have a poor prognosis. (83 Refs)

64. SEXUAL REHABILITATION OF THE PATIENT WITH UROLOGIC CANCER.

Rodriguez DB
Section Enterostomal Therapy, Dept. Nursing, Univ. Texas M.D. Anderson Hosp. and Tumor Inst., Houston, TX
Cancer Bull; 34(1):37-39 1982

Approaches to help the health professional deal with the emotional and psychological impact of urologic cancer on the patient are discussed, using the PLISSIT model, in which the patient's rehabilitation occurs in four stages. Topics considered include assaults on sexuality, environment for rehabilitation, PLISSIT model, and health professional's role. (4 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

65. THE CLONOGENIC GROWTH OF CELLS DERIVED FROM BLADDER BARBOTAGE IN PATIENTS WITH TRANSITIONAL CELL CARCINOMA OF THE BLADDER: A PRELIMINARY REPORT.

Niell HB, Soloway MS, Nissenkorn I
Dept. Internal Medicine, Univ. Tennessee Center for Health Sciences, Memphis, TN
J Urol; 127(4):668-670 1982

Tumor cells obtained from bladder washings in 41 patients with transitional cell carcinoma of the bladder and 15 control subjects were analyzed for their ability to produce cluster and/or colony formation in a tumor stem cell assay. In vitro cell growth was correlated with the presence of tumor at the time of bladder washing, tumor grade and treatment status. Of 34 bladder washings from patients with biopsy-proved transitional cell carcinoma 88% produced cluster and/or colony formation. Specimens from patients not currently receiving intravesical chemotherapy at the time of bladder barbotage produced colonies in 54% of the cases, compared to 25% from patients receiving therapeutic or maintenance therapy. Higher grade tumors produced more viable cells at bladder barbotage but clonal growth rates were independent of histologic grade. We conclude that bladder barbotage may serve as a source of cells for chemotherapeutic drug testing in patients with transitional cell carcinoma of the bladder. Bladder washings also may be useful as a source of tumor cells for monitoring the in vivo growth potential of bladder cancer in the tumor stem cell assay. (Author abstract) (12 Refs)

66. PREPARATION AND CHARACTERIZATION OF MONOCLONAL ANTIBODIES AGAINST ANTIGENS OF HUMAN RENAL ADENOCARCINOMA.

Hess H, Alheid U, Biermann S, Waks T, Scherberich JE, Mondorf AW, Schoeppe W, Senge T, Falkenberg FW
Dept. Nephrology, Center for Internal Medicine, Klinikum J. W. Goethe Universitat, 6000 Frankfurt am Main, W. Germany
Protides Biol Fluid Proc Colloq; 29:903-905 1982

Lymphocytes from BALB/c mice hyperimmunized by four and eight consecutive injections of renal adenocarcinoma plasma membranes were fused with X63-Ag 8.653 plasmacytoma cells. In the supernatants of 90/600 wells with viable cells, antibodies reactive with antigens in tumor and/or kidney were found. Twenty-two clones were isolated and characterized. Tumor cell membranes, capillaries and intercellular matrix were recognized by the various monoclonal antibodies. Generally, the density of antigenic determinants was higher in the tumor than in normal kidney tissue. No monoclonal antibodies were found that reacted exclusively with tumor. Localization of antigenic determinants in the kidney was easy, while in the tumor tissue localization could not be defined exactly. Antibodies of Hyp I 164 D5 and Hyp I 289 A1 reacted with tumor cell membranes, antibody Hyp I 238 A9 with capillaries. (5 Refs)

67. SERUM-FREE MEDIUM FOR THE IN VITRO GROWTH OF NORMAL AND MALIGNANT URINARY BLADDER EPITHELIAL CELLS.

Messing EM, Fahey JL, DeKernion JB, Bhuta SM, Bubbers JE
(c/o Bubbers) Dept. Surgery, Univ. California Los Angeles Sch. Medicine, Los Angeles, CA, 90024
Cancer Res; 42(6):2392-2397 1982

A serum-free medium, DH-S1, is described which is valuable for the establishment of primary cultures of normal and malignant transitional epithelium (transitional cell carcinoma of the bladder). Growth of epithelial cells in DH-S1 is facilitated but that of fibroblasts is suppressed. Another established human transitional cell carcinoma cell line, 647V, has grown continually in DH-S1 for over 36 passages. Morphological and antigenic studies comparing 647V cells growing in serum-containing and serum-free medium reveal differences which are pronounced at low cell density but which almost disappear at higher densities. A new human transitional cell carcinoma cell line, LA-B1, is described whose initial growth was supported by this serum-free medium. (Author abstract) (22 Refs)

68. GENETIC INSTABILITY COUPLED TO CLONAL SELECTION AS A MECHANISM FOR TUMOR PROGRESSION IN THE DUNNING R-3327 RAT PROSTATIC ADENOCARCINOMA SYSTEM.

Isaacs JT, Wake N, Coffey DS, Sandberg AA
Johns Hopkins Oncology Center, Dept. Urology, John Hopkins Univ. Sch. Medicine, Baltimore, MD, 21205
Cancer Res; 42(6):2353-2361 1982

The androgen-sensitive Dunning R-3327-H prostatic adenocarcinoma has been maintained by continuous serial passage in intact male rats for many years. While it has been possible to maintain the original characteristics of the well-differentiated H tumor over 16 yr, there have evolved spontaneously, however, more aberrant sublines from this tumor at several subpassages in intact male rats. Serial passage of these individual sublines has established five additional R-3327 tumors each with distinct phenotypes and each more aberrant than the parent H tumor. In addition, it has been possible by passage of the H tumor in castrated male rats to obtain a well-differentiated slow-growing androgen-insensitive tumor termed the H1-S tumor. The continuous serial passage of this HI-S tumor has likewise resulted in the emergence of three new types of Dunning tumors. The results from the biochemical and chromosomal studies presented demonstrate that there is a consistent association in each of these tumor progressions between the expression of genetic instability, which results in the addition of phenotypically new clones of cells to the tumor population, and the subsequent selection of these newly developed clones. These results suggest that the process of genetic instability coupled to clonal selection is one mechanism for the change in tumor phenotype characteristically associated with tumor progression within this system of prostatic tumors. (Author abstract) (20 Refs)

69. DUNNING ADENOCARCINOMA IN TISSUE CULTURE: ISOLATION OF A CLONED CELL LINE, R3327H-G8-A1.

Sestili MA, Norris JS, Lipschultz LI, Smith RG
(c/o Smith) Div. Urology, Univ. Texas Medical Sch., 6431 Fannin, Suite 6018, Houston, TX, 77030
J Urol; 127(4):823-825 1982

A cloned cell line, R3327H-G8-A1, was isolated from an explant of the well differentiated androgen dependent Dunning R3327H adenocarcinoma. Preliminary characterization of this cell line indicates that it is epithelial-like, and that it synthesizes and secretes large quantities of acid phosphatase. The cells bind testosterone in a saturable manner with an equilibrium dissociation constant of 0.5 nM and with a capacity of 5,000 sites/cell. When these cells were injected subcutaneously into the hind flank of Copenhagen-Fischer rats, or into the dorsal or ventral lobes of the prostate, large tumors were produced 3 months following administration, thus demonstrating the tumorigenicity of the cells. (Author abstract) (20 Refs)

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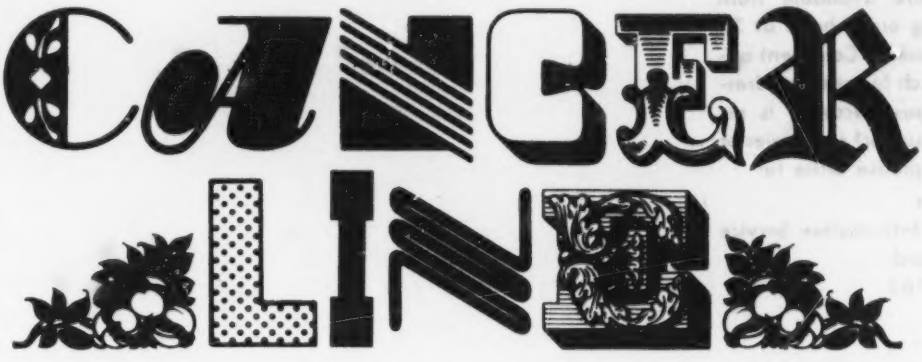

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TUMORS OF THE KIDNEY (GENERAL)

1. COMPUTERIZED TOMOGRAPHY IN THE DIAGNOSIS OF TRANSITIONAL CELL CARCINOMA OF THE KIDNEY.

Baghdassarian OM, Goldman SM, Marshal FF, Siegelman SS
Russell H. Morgan Dept. Radiology and Radiological Science, James Buchanan Brady Urological Inst., Johns Hopkins Medical Inst., Baltimore, MD
J Urol; 127(5):876-887 1982

We present eight patients with transitional cell carcinoma of the kidney who underwent preoperative computerized tomographic examination of the lesions. The computerized tomographic findings are discussed and are correlated with the conventional radiographic appearance. The tumor presents on computerized tomographic examination as a solid mass in the renal pelvis and/or in a ballooned calix, with displacement and compression of the renal sinus fat. It shows attenuation values of 8 to 20H and enhances minimally after intravenous injection of iodinated contrast material. Trapping of contrast material in curvilinear caliceal spaces or in compressed collecting ducts around the periphery of the tumor results in crust-like rims of contrast density tightly and persistently encircling portions of

the tumor. Retention of contrast material in obstructed tubules results in accentuated delayed enhancement of the renal parenchyma surrounding the larger lesions. A striated parenchymal pattern, secondary to uneven collecting duct obstruction, also may be seen on delayed views. The reniform contour of the kidney usually is preserved even in the presence of larger neoplasms. (Author abstract) (16 Refs)

2. COMPUTED TOMOGRAPHY SCAN FOR DIAGNOSIS AND STAGING OF RENAL CELL CARCINOMA (MEETING ABSTRACT)

Richie JP, Garnick MB, Selzer S, Bettman MA
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Controversy exists about the optimal and most cost-effective approach of the diagnosis of a renal mass. Flush and selective arteriography have been the sine qua non for accurate diagnosis and staging of renal cell carcinoma (RCC). However, these techniques are relatively invasive, carry a certain morbidity, and have proven of limited value in detecting extrarenal spread and regional nodal involvement. Improvements in computed tomography (CT), with its advantages over other imaging modalities, have led to comparisons of CT and angiography in diagnosis and staging of RCC. We have evaluated 45 patients with proven RCC for the effectiveness of arteriography, CT, or both to accurately diagnose and stage these patients. Clinical/surgical correlations reveal that the CT scan compares favorably with arteriography in the assessment of extent of local disease, lymph node involvement, and inferior vena caval involvement. Diagnosis of tumor was superior with CT (38/40) compared to angiography (29/34) because of the presence of avascular lesions. Equivalent accuracy was noted in localizing stage I or II RCC, and CT was better in evaluation of regional lymph nodes and hepatic involvement. The results of these comparisons have led us to choose CT as the primary radiographic procedure of choice for the diagnosis and preoperative staging (for local extent) of RCC. In patients with questionable findings, however, inferior venacavography and/or arteriography are utilized as complementary studies to the CT scan. (no Refs)

3. STAGING OF RENAL CELL CARCINOMA BY COMPUTED TOMOGRAPHY AND DYNAMIC COMPUTED TOMOGRAPHY (MEETING ABSTRACT)

Lang EK, Sullivan J, Appell R
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Criteria generated by computed tomogram and dynamic computed tomogram are found useful for staging of renal cell carcinoma. Computed tomograms clearly demonstrate extension of tumor through the anterior or posterior renal fascia into the pararenal space and/or into adjacent organs. Dynamic computed tomograms consist of 12 sequential slices recorded within 70 seconds after the injection of a bolus of approximately 150 milliliters of iodinated contrast medium. This rapid recording technique identifies the neoplasm as a mass staining denser than normal renal parenchyma (on basis of the vascularity of the tumor). The primary tumor and its extensions are, therefore, readily demonstrated, tumor and its extensions into the renal vein or inferior vena cava and sometimes even tumor implants in regional nodes are also demonstrable. The dynamic computed tomogram eliminates such false-positives as flow defects in the inferior vena cava misdiagnosed as tumor thrombi, large renal veins erroneously attributed to tumor extension or collateral veins or inflammatory fronds in the perinephric space mimmicking contiguous tumor extension. The accuracy of staging by computed tomography is critically compared to staging based on arteriography and its superiority established in this group of 18 patients. (no Refs)

4. CT OF CALCIFIED RENAL MASSES.

Weyman PJ, McClennan BL, Lee JK, Stanley RJ
Mallinckrodt Inst. Radiology, Washington Univ. Sch. Medicine, 510 S. Kingshighway Blvd., St. Louis, MO, 63110
AJR; 138(6):1095-1099 1982

The ability to evaluate the composition and to precisely locate calcifications within renal masses resulted in more accurate evaluation of 21 calcified renal masses by computed tomography than by standard radiographic techniques. Of 11 solid tumors, computed tomography demonstrated a soft-tissue mass extending beyond the calcification in nine cases of renal cell carcinoma. Of 10 benign cystic lesions, all 6 lesions characterized by a uniform water-density center, calcification confined to the wall, and no detectable soft-tissue mass were benign cysts. Three additional cystic lesions (xanthogranulomatous pyelonephritis, multilocular cystic nephroma, and a cyst containing calcified debris) were believed to represent benign lesions postoperatively due to the absence of a soft-tissue mass. Only peripherally calcified lesions with a central attenuation higher than accepted for benign cysts were indeterminate by computed tomography. The significance of the computed tomographic findings in terms of malignant potential and patient management is discussed. (Author abstract) (13 Refs)

5. PROGNOSTIC IMPLICATIONS OF VENA CAVAL EXTENSION OF RENAL CELL CARCINOMA (MEETING ABSTRACT)

Cherrie RJ, Goldman DG, Lindner A, DeKernion JB
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Vena caval extension of renal cell carcinoma occurs in 4-10% of patients, and is usually considered a poor prognostic sign. To ascertain the true effect of vena caval extension on survival, a retrospective analysis of 27 patients who underwent radical nephrectomy with removal of vena cava thrombus at UCLA between 1970 and 1980 was performed. An additional 46 patients were collected from series in the literature, and composite statistics were compiled. Extension to the vena cava alone had a limited impact on prognosis (2 year survival, 81%; 5 year survival, 53%; median survival, 81 months). Capsular invasion negatively influenced survival (2 year survival, 59%). Extension into the regional lymph nodes had a much greater impact on survival with 2 year survival of 35%, and no patients surviving 5 years (median survival, 24 months). Only 5% of patients with distant metastases survived 2 years and none survived 5 years (median survival, 5 months). In conclusion, the prognosis of patients with vena caval extension is influenced primarily by known adverse prognostic factors-lymph node involvement and distant metastases- and aggressive surgery in these patients has no role. Palliation for vena caval extension seems unwarranted, since less than 6% of patients had significant signs or symptoms secondary to caval thrombus. Patients with vena caval extension alone, have a cure rate approaching that of patients with State I renal carcinoma follow-

ing radical nephrectomy and complete removal of the vena caval thrombus. (no Refs)

6. THE INFLUENCE OF PERINEPHRIC FAT INVOLVEMENT ON SURVIVAL IN PATIENTS WITH RENAL CELL CARCINOMA EXTENDING INTO THE INFERIOR VENA CAVA (MEETING ABSTRACT)

Heney NM, Nocks BN
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

From 1935 to 1980, 725 patients were admitted to the hospital with a diagnosis of renal cell carcinoma. Of these, 19 patients had inferior vena caval extension of tumor in the absence of regional (nodal) or distant metastases. The 15 male and 4 female patients were between 39 and 74 years, with a mean of 62 years. Tumors were staged according to the American Joint Committee for Cancer Staging. Tumors involving the inferior vena cava but confined within the renal capsule were designated T3c, while tumors which involved the vena cava and also penetrated through the renal capsule into perinephric tissue were classified as T3ac. The overall 3 and 4 years survival in both stages combined was 56% and 38% respectively, but a striking difference in survival was observed when those patients with perinephric fat involvement (T3ac) were separated from those whose tumors had not penetrated through the renal capsule (T3c). The 3 and 5 year crude survival for patients with T3ac tumors was 14% and 0% compared to 82% and 67% for patients with T3c tumors. Patients with T3ac tumors developed metastases earlier (mean 13 months) then patients with T3c tumors (mean 22 months). Although the overall mean survival was 50 months, the mean survival duration of patients with T3ac tumors was 17 months compared to 75 months for patients with T3c tumors. All patients survived the extensive surgery required and post operative hospital stay ranged from 8 to 24 months with a mean stay of 16 days. (no Refs)

7. RENAL CELL CARCINOMA INVADING INFERIOR VENA CAVA (MEETING ABSTRACT)

Sogani PC, Bains MS, Herr HW, Whitmore WF
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The prognostic significance of inferior vena caval involvement by renal cell carcinoma remains unsettled. This is a retrospective review of 15 patients with renal cell carcinoma invading inferior vena cava (IVC) treated in the past 15 years. These patients are divided into two groups: Group I: 7 patients with no evidence of metastases and Group II: 8 patients with metastases in lung and/or bone at the time of treatment. The level of venal caval involvement was renal in 6, infrahepatic in 8 and suprahepatic in 1 patient. All patients underwent radical nephrectomy and extraction of tumor thrombus from IVC by open technique with or without excision of cuff of IVC in 12, with IVC resection in 2 and ligation of IVC in 1. In 8 patients we utilized a technique of suprahepatic infrapericardial vena control by applying an Allen clip to prevent intraoperative tumor emboli. Operative mortality was 6.6% and morbidity included mild transient renal dysfunction in 1, leg edema in 2 and pulmonary emboli in 1. The prognosis in Group I patients appears to be good. Four of 7 patients are alive and free of cancer for 28 months, 50 months, 78 months and 186 months, respectively. Three patients developed metastases within a year and in spite of chemotherapy all died (average survival 22 months). The prognosis in Group II patients is poor. Post nephrectomy treatment in this group included mediastinal lymph node dissection in 2, chemotherapy and/or irradiation in 5 and no treatment in 1. Six of 8 patients have died with cancer (average survival 12 months). The surgery for renal cell carcinoma invading inferior vena cava is technically safe. In patients without distant metastases removal of intracaval tumor can offer good prognosis. However, in patients with distant metastases the role of surgery is questionable. (no Refs)

8. CARCINOMA CELLS WITHIN CLEAR SIMPLE RENAL CYST FLUID: RENAL CARCINOMA-IN-SITU (MEETING ABSTRACT)

Levine SR, Dean GS, Bradley RD, Janson KL
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The association of renal cysts and renal tumors have been the source of controversy for years. In 1963, one of us reported the statistics from the Mayo Clinic in which only one percent of simple renal cysts were associated with renal malignancy. Recently the trend has been not to explore all simple renal cysts. Moreover, some centers no longer feel the need to perform routine percutaneous aspirations of simple renal cysts, due to improved nephrotomograms, ultrasonograms, angiograms and CAT (computerized axial tomography) scans. In this report we present our findings on several patients who had simple renal cysts by all current diagnostic standards including angiography, who were found to have malignant cells in the clear fluid aspirated from the 'simple cysts'. Each of these patients underwent radical nephrectomy, and all were found to have small renal cell carcinomas in association with the renal cysts. These malignant lesions, which would not have been identified grossly by unroofing the cyst at the operating table only were found after careful pathologic study of grossly normal appearing renal tissue. We propose that this disease state be reported as renal carcinoma-in-situ. We emphasize the need for routine percutaneous cyst aspiration and careful histopathologic study of fluid of all renal cysts as the only way to accurately diagnose this early malignant lesion. (no Refs)

9. PREOPERATIVE STAGING OR RENAL CELL CARCINOMA (MEETING ABSTRACT)

Surya V, Clayman RV, Lange PH
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Accurate preoperative staging is important in the management of patients with renal cell carcinoma (RCC). Recent proliferation of diagnostic techniques (bone scan, liver scan, etc) which search for distant metastases has resulted in increased hospitalization and expenditure. In order to assess if these additional tests are an improvement over more traditional studies, we reviewed the charts of 93 RCC patients who had extensive diagnostic studies between July, 1976 and June, 1980 at the VA Medical Center, Minneapolis. We compared the accuracy in detecting metastases between chest x-ray (CXR) vs full lung tomograms (FTLS); history and physical exam for neurological symptoms and signs vs brain scan or CT (computed tomographic) scan; the alkaline phosphatase, calcium and phosphorus in the serum as well as the presence of bone pain vs the bone scan and bone survey; and the alkaline phosphatase, SGOT and physical exam vs the liver scan. In addition, in

order to evaluate the trends in preoperative evaluation of RCC patients in search of distant metastases, we conducted a nationwide mail survey of 300 AUA members in an effort to determine what studies they included as part of an evaluation for distant metastases. In our studies, FLTS were effective in detecting 37% of the total lung mets which were not detected by routine CXR; however, liver scan, bone scan and brain scan did not detect any metastases undetected by traditional methods. Moreover, among practicing urologists, 44.1% did FLTS, 31.1% did liver/spleen scans, 53.4% did bone scans, and 6.8% did brain scans. (no Refs)

10. ADENOCARCINOMA OF THE KIDNEY. A PERSONAL SERIES OF 237 CASES.

Bollack C, Cinqualbre J
Service de Chirurgie Urologique, C.H.U., 67091 Strasbourg Cedex, France
Lyon Chir; 78(2):86-92 1982

Renal adenocarcinomas (82 Stage I, 30 Stage II, 79 Stage III, and 46 Stage IV) were diagnosed in 237 patients (148 men, 89 women; 21-85 yr old). A radical nephrectomy was performed in 219 patients and a tumorectomy in 2 others. Twenty-three patients were determined to be inoperable after exploratory surgery. Three other patients underwent surgery for metastases but not for primary renal tumor. Of the 237 patients, 19 died within 30 days of surgery while another 21 developed non-fatal postoperative complications. For the 205 patients followed-up, the 1-and 5-yr survival rates were 74% and 46%, respectively. The prognosis for young (less than 40 yr old) was not good. Of the 23 patients less than 40 yr old, 15 had died, most within less than 1 yr. Of the 79/82 Stage I patients who survived surgery, 12 died within 1-10 yr and 15/79 developed metastases. In 7/15 Stage I patients in whom metastases developed, the secondary lesion appeared within 5-9 yr of surgery. Some disparities were noted with regard to survival for Stage IV patients. Other topics discussed in relation to kidney adenocarcinomas include: epidemiology, immune status, histology, symptoms, diagnosis, and treatment. (3 Refs) (In FRE)

11. LYMPHADENECTOMY IN RENAL CELL CARCINOMA: ANATOMICAL AND THERAPEUTIC CONSIDERATIONS (MEETING ABSTRACT)

Marshall FF, Powell KC
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The only effective form of treatment in renal cell carcinoma remains surgery. The value of lymph node dissection associated with a radical nephrectomy has yet to be determined. The precise anatomical limits of a lymph node dissection remain to be defined. This study was undertaken to review existing information on the extrarenal lymphatic drainage of the kidney in an attempt to define the appropriate extent of a lymphadenectomy. The regional lymphatic drainage of the right kidney includes the lateral caval, post caval, pre caval and inter-aorticocaval lymph nodes. A right radical nephrectomy would then include a circumferential dissection around the vena cava from the crus of the diaphragm to the bifurcation of the vena cava on the right side. The lymphatic drainage of the left kidney includes left lateral lumbar, preaortic and post aortic nodes. In addition, there are nodes unique to the left kidney including several on the left crus of the diaphragm and several at the level of the left renal vein at the insertion of the left adrenal vein. The post aortic nodes are superior and relatively inaccessible behind the aorta because the crus of the diaphragm precludes dissection in this area. A left radical nephrectomy would then include lymphadenectomy from the superior mesenteric artery down to the aortic bifurcation. A dissection posterior to the aorta or inter-aortico-caval nodes appear less important than a comparable dissection on the opposite side. Multiple renal vessels or large tumors may change lymphatic drainage patterns. (no Refs)

12. RENAL DEVITALIZATION USING 95 PER CENT ETHYL ALCOHOL.

Rosenkrantz H, Sands JP, Buchta KS, Healy JF, Kmet JP, Gerber F (c/o Sands) Urology Dept 26/4A, Navy Regional Medical Center, San Diego, CA, 92134
J Urol; 127(5):873-875 1982

Preoperative embolization of renal arteries with solid material before nephrectomy is a standard procedure for the treatment of renal cell carcinoma. However, it often is difficult to use these materials and sometimes special equipment is required. We have used 95% ethyl alcohol in three patients to devitalize kidneys with tumors. Our results show 95% ethyl alcohol to be safe, effective and easy to use. When combined with epidural anesthesia alcohol embolization is well tolerated by the patient, and its destructive effect is complete and limited to the selected organ. (Author abstract) (24 Refs)

13. RENAL TUMOR EMBOLIZATION WITH ABSOLUTE ETHANOL (MEETING ABSTRACT)

Rabe FE, Yune HY, Klatte EC
Department of Radiology, Indiana University Medical Center, Indianapolis, IN, 46223
Eighty-second Annual Meeting of the American Roentgen Ray Society, May 10-14, 1982, New Orleans, Louisiana The American Roentgen Ray Society; :A147 1982

For almost ten years, embolization of renal cell carcinomas has been performed. Multiple embolic agents are available for use, and we report our experience with 10 cases of renal tumor embolization utilizng intra-arterial absolute ethanol. Several advantages exist to the use of absolute ethanol as an embolic agent. Because ethanol goes to the capillary bed and causes infarction, injection of the main renal artery usually results in complete infarction and selection of multiple collateral vessels is not necessary. In addition, the non-viscous fluid state of ethanol makes trans-catheter administration easy. Finally, reflux of ethanol out of the desired vessel will not result in inadvertent distal emboli because the drug is inactive when diluted in large volumes of blood. In our report we include technique of administration, illustrative cases and patient follow-up. (no Refs)

14. PRIMARY MALIGNANT RENAL TUMORS IN THE SECOND DECADE OF LIFE: WILMS TUMOR VERSUS RENAL CELL CARCINOMA.

Hartman DS, Davis CJ, Madewell JE, Friedman AC
Div. Genitourinary Radiologic Pathology, Dept. Radiologic Pathology, Armed Forces Inst. Pathology, Washington, DC, 20306
J Urol; 127(5):888-891 1982

Primary renal malignancies occur least frequently in the 2nd decade of life. Of the 4,798 cases of renal cell carcinoma and Wilms tumor referred to the Armed Forces Institute of Pathology 53 renal cell carcinomas and 56 Wilms tumors occurred in the 10 to 20-yr age group. Pathologically, both tumors in this age range are similar to those occurring at the more typical age, and histologic differentiation between renal cell carcinoma and Wilms tumor is seldom a problem. While radiographic

evaluation is useful to characterize the neoplasm, evaluate the contralateral kidney and detect the presence of tumor extension, current imaging techniques cannot confidently distinguish these two tumors. (Author abstract) (22 Refs)

15. RENAL ADENOCARCINOMA IN YOUNG ADULTS (MEETING ABSTRACT)

Schiff M, Herter G, Lytton B
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Renal adenocarcinoma is a disease commonly associated with an older population, the median age at the time of diagnosis being approximately 60 years. Recently there has been increased awareness of the occurrence of the identical pathologic entity in children, with some evidence to suggest that their overall survival rate is significantly better than that of an older population with simlar stage disease. We have recently treated a number of young adults, 20 to 40 years of age, with renal adenocarcinoma, and were interested in attempting to determine whether the seemingly improved survival data noted in the pediatric population extended beyond the first two decades of life, and if so, whether this was due to differences in the natural history of the disease itself or simply to the lack of intercurrent disease in the younger population. We therefore reviewed 523 cases of renal adenocarcinoma which were seen at our institution between 1948-1980 and found that 37 of them (7.1%) were inpatients 40 years or less at the time of diagnosis. Survival data for this group of young adults was compared with the remainder of the group (above 40 yrs), for similar stage of disease. Patient survival at 3, 5, and 10 year intervals was distinctly better for the younger age group, for both Stage I as well as Stage II and III disease; survival in Stage IV disease was uniformly poor. Further analysis of the data revealed that the improved survival in the younger group could not be attributed to a greater number of non-cancer deaths in the older population; the percentage of patients who died without evidence of disease was essentially identical in the two groups. (no Refs)

16. DETECTION AND QUANTITATION OF ANTIBODIES AGAINST STRUCTURES OF RENAL CELL CARCINOMA IN SERA OF TUMOR PATIENTS BY IMMUNOFLUORESCENCE (MEETING ABSTRACT)

Breul J, Senge T, Falkenberg FW
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

It has been reported by De Kernion et al and by others that patients with renal cell carcinoma develop antibodies against tumor-associated antigens. Our report describes a sensitive test system in which antibodies in patients' sera are titered on tumor slices in an indirect immunofluorescence assay. Titers, determined from immunofluorescence staining intensity of serial dilutions of sera, range from 1:1000 to 1:1,000,000 in carcinoma patients as compared to titers of 1:10 to 1:30 in sera of normal healthy subjects. The highest titers were always found with autologous tumor tissue. Crossreaction was observed in all combinations of sera and tumors, in most cases, however, with lower titers. This indicates that similar antigen patterns in the tumor are recognized in all patients. Sera of 25 patients were screened over a period of one to six months post nephrectomy. In all cases tested so far, antibody titers increased dramatically in the days following nephrectomy. Afterwards, titers of most of the patients decreased, reaching normal values within one month. In these patients there is, at the moment, no clinical evidence for metastatic proliferation. The same technique was used for screening 30 patients that had undergone tumor nephrectomy during the past 5 years. Almost all patients with normal (low) antibody titers showed no clinical signs of tumor progression. Among those patients with high levels of antitumor antibodies, some have developed metastases, whereas others show no clinical signs of metastatic disease. (no Refs)

TUMORS OF THF RENAL PELVIS AND URETER

17. COMPUTED TOMOGRAPHY OF URETERAL OBSTRUCTION.

Bosniak MA, Megibow AJ, Ambos MA, Mitnick JS, Lefleur RS, Gordon R
Dept. Radiology, New York Univ. Medical Center, 560 First Ave., New York, NY, 10016
AJR; 138(6):1107-1113 1982

Although hydronephrosis can usually be diagnosed by urography and/or pyelography, the etiology of the obstruction may not be apparent. Computed tomography (CT) is usually helpful in evaluation of these cases. In 36 cases in which CT were performed solely to determine the cause of ureteral obstruction of uncertain etiology, it proved to be of value in 33 instances (91.7%). The disease processes encountered in this series included metastatic carcinoma to the ureter ore periureteral tissues (22), lymphoma (1), primary ureteral tumor (2), radiolucent urethral stone (4), adjacent ileocolitis (2) aortic or iliac artery aneurysm (2), fibrous band (1), urinoma (1), and radiation fibrosis (1). In three cases (8.3%) an etiologic diagnosis could not be made by CT. These patients had radiation therapy to treat malignant disease, and recurrent tumor responsible for urethral obstruction could not be distinguished from radiation fibrosis. (Author abstract) (21 Refs)

18. ENDO-UROLOGICAL MANAGEMENT OF MALIGNANT URETERAL OBSTRUCTION (MEETING ABSTRACT)

Surya V, Miller RP, Fraley EE, Smith AD
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The question of whether or not to divert an obstructed ureter by pelvic malignancy has been a controversial one. Conventional urinary diversion has a reported mortality rate of 3-6%, with a morbidity rate of 20-40%. In the past three years (1977-1980), at the University of Minnesota and Veterans Administration Hospitals, Minneapolis, we have treated 110 ureters with malignant obstruction by various endo-urologic maneuvers, followed by appropriate radiotherapy or chemotherapy. We had no mortality from the procedure itself and the morbidity rate was 10%. There were no major complications. Over 90% of the patients were able to leave the hospital following diversion. Hence, we believe that endo-urological management of ureteral obstruction offers the safest and most reasonable type of diversion for patients with malignant ureteral obstruction. (no Refs)

19. TRANSITIONAL CELL CARCINOMA OF RENAL PELVIS.

Necks BN, Heney NM, Daly JJ, Perrone TA, Griffin PP, Prout GR
Urological Service, Dept. Surgery and Pathology, Massachusetts General Hosp., Harvard Medical Sch., Boston, MA, 02114
Urology; 19(5):472-477 1982

Sixty-eight patients with transitional cell carcinoma of the renal pelvis were studied with respect to clinical presentation, tumor grade, stage and location, subsequent development of other urothelial tumors, and patient survival. Of the 66 patients with adjacent mucosa available for evaluation, 63 (95%) had abnormal findings with severe dysplasia and CIS common in the high-grade, high-stage tumors. Twenty-eight patients (41%) had transitional cell carcinoma previously, concomitantly, and/or subsequently, and in 14 patients (21%) subsequent bladder tumors developed. Because of the relatively high tumor recurrence rate in the ureter (16%) in patients who underwent subtotal ureterectomies, nephrectomy and complete ureterectomy including a bladder cuff should be the operation of choice in patients with carcinoma of the renal pelvis. (Author abstract) (22 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

20. INVASIVE BLADDER CANCER: SUPPORT FOR SCREENING (MEETING ABSTRACT)

Hopkins SC, Ford KS, Soloway MS
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Fifty-one consecutive patients with T2+ (B+) bladder carcinoma who presented or were referred to the University of Tennessee Medical Center were reviewed to determine what per cent had prior superficial disease. Thirty-nine patients were male, 12 female. Thirty-seven were caucasian, 14 black. Their ages ranged between 33-82 years. Forty-six of the 51 demonstrated muscle invasion at initial presentation. Twenty-six of the 46 patients underwent salvage cystectomy and two declined surgery. Fifteen patients were clinically inoperable or medically unfit and these received radiotherapy alone or in combination with chemotherapy. The mean survival for the entire group from diagnosis was 13.5 months. Five patients did have a prior history of superficial bladder cancer. This varied from severe dysplasia with multiple positive cytologies to papillary TCC grades I-IiI, stages Ta and T1. All progressed to T2+ (B+) disease within 3-19 months. Three patients had a cystectomy; one declined surgery and one was inoperable. This survey confirms the report by Kaye and Lange that the vast majority of their patients with T2+ (B+) invasive bladder cancer did not receive urologic evaluation and therapy at an earlier stage. These data are also in agreement with observations that 5% of those with Ta disease will progress to muscle invasion. (no Refs)

21. SELECTIVE SURFACE STAINING OF BLADDER TUMORS BY INTRAVESICAL METHYLENE BLUE WITH ENHANCED ENDOSCOPIC IDENTIFICATION (MEETING ABSTRACT)

Gill WB, Huffman JL, Lyon ES, Schoenberg HW, Bagley DH, Straus FH
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Methylene blue has been extensively used in humans for localization of ureteral orifices, fistulae and for therapy of cystitis and urolithiasis. After observing that methylene blue only stained injured urothelium (chemical or mechanical damage) when instilled into rat bladders, we postulated that this dye might selectively bind to the surfaces of bladder tumors, but not to normal urothelium. Staining of human bladder tumors in vivo was accomplished by the intravesical instillation of 0.1% methylene blue in 0.9% saline through a foley catheter under 20 cm of hydrostatic pressure up to a maximum volume of 400 ml. After 5 minutes contact time, the methylene blue soluton was drained, and the bladder was washed twice with saline. Thereafter, either cystoscopy or operation was performed. Intravesical instillation of methylene blue resulted in selective surface staining of bladder tumors in vivo without staining the background of normal urothelium. This method has been employed in 22 patients with transitional cell carcinomas to date: 15 received endoscopic fulguration/resection and 7 underwent total cystectomy. The transitional cell carcinomas in 20 of these 22 patients bound methylene blue to the surfaces of the tumors usually bound the dye more extensively than lower grades. The two patients, whose tumors did not bind methylene blue, had received previous chemotherapy, which might account for their being falsely negative. Areas of hyperplasia and radiation cystitis also did not bind methylene blue. (no Refs)

22. UROTHELIAL DYSPLASIA.

Murphy WM, Soloway MS
Dept. Pathology, Baptist Memorial Hosp., Memphis, TN
J Urol; 127(5):849-854 1982

Urothelial dysplasia (UD) is defined in conceptual and morphological terms, areas of controversy are discussed, effects of concepts of UD on urological practice are demonstrated, and a practical course for clinicians is recommended. Experimental studies of UD are described. Pathologic characteristics of mild-moderate UD are discussed. In contrast to mild-moderate UD, severe lesions of UD are similar to those of carcinoma in situ, differing only in the lack of full thickness involvement of epithelium. Two major theories of the progression of UD are discussed in relation to the diagnosis and treatment of UD. According to the first theory, UD is an embryonic form of malignancy that, if left undisturbed, will mature into invasive cancer. The second major theory contends that dysplasia is merely a marker of an epithelium responding abnormally to some combination of genetic and environmental factors. Diagnosis of UD is often based on selected urothelial biopsies in patients being evaluated for bladder cancer. Most individuals with mild-moderate UD also have bladder cancer and follow-up procedures, as well as therapy should be directed toward the tumor. The biological significance of UD has not yet been determined. (61 Refs)

23. URINARY BLADDER CYTOLOGY AND IMMUNOPEROXIDASE STAINING FOR CARCINOEMBRYONIC ANTIGEN (MEETING ABSTRACT)

Bolleau MA

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The overall cytological accuracy for patients with histologically proven urothelial tumors is approximately 70% but varies significantly with the grade of the bladder tumor. In cases of moderately differentiated and poorly differentiated transitional cell tumors cytologies are positive in over 90% of cases. However well differentiated lesions yield negative cytology because the morphologic changes in the exfoliated cells are not sufficient to differentiate from normal cells. It has been reported that approximately 60% of well differentiated urothelial tumors have CEA (carcinoembryonic antigen)-containing cells. In an effort to increase the accuracy of cytology we have utilized immunoperoxidase staining for CEA in patients with low grade urothelial tumors. Bladder washings were obtained from 30 patients with known transitional cell carcinoma of the bladder an fixed with 50% ethanol. The cells were then placed in a cytospin centrifuge and spun on to microscope slides. An indirect immunoperoxidase labelled anti-CEA antibody technique was then used to identify urothelial cells containing CEA. A CEA-producing colon carcinoma cell line was used as a positive control. Slides from 5 patients were considered uninterpretable. Slides from 15 patients revealed urothelial cells containing CEA. Slides from the remaining 10 patients were negative. (no Refs)

24. RISK OF TUMOR IMPLANTATION FROM BLADDER PERFORATION (MEETING ABSTRACT)

Laor E, Reid RE, Freed SZ, Whitmore WF

No affiliaton given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Bladder perforation during transurethral resection of bladder tumors has the potential of transforming a localized lesion into a generalized disease. But no published data is available to accurately assess this potential risk factor. The records of 53 patients with transitinal cell carcinoma of the bladder who sustained bladder perforations during transurethral tumor resections between the years 1960 and 1977 were evaluated for evidence of subsequent extravesical tumor implantations. Tumor implantation occurred in five of forty-one intraperitoneal perforations and in one of twelve extraperitoneal perforations. Thus the incidence of tumor implatnations was 11.3% in this series. Most of the implanted tumors were high grade invasive lesons and the survival of patiens with evidence of extravesical tumor implantation was uniformly poor ranging from two to eight months following perforation (average five months). However, the perforation did not seem to adversely affect the course of the neoplastic disease of the forty-seven patients in whom tumor implantation did not occur. (no Refs)

25. BLADDER WALL RESECTION FOR URINARY BLADDER CANCER INFILTRATING THE MUSCULAR LAYER (P2/P3).

Fossa SD, Kaalhus O, Gjersvik Th, Segadal E

Alminnelig avdeling, Det Norske Radiumhospital, Oslo 3, Norway

Tidsskr Nor Laegeforen; 102(11):627-629 1982

Bladder wall resection was performed in 34 patients (19 men and 15 women) with cancer of the urinary bladder infiltrating the muscular layer with or without penetration of the bladder wall. Ureter reimplantation was performed in 22/34 patients. Three patients died of intercurrent diseases during the first 6 wk after surgery. The crude 5-and 10-yr survival rates were 35.8% and 25.3%, respectively (35.6% and 17% for men and 36.1% and 36.1%, respectively, for women). The 5-and 10-yr survival rates were 39.4% and 26.3%, respectively, for 12 patients with superficial infiltration of the muscular layer, 40.5% and 40.5% for 16 patients with deep infiltration of the muscular layer and 16.6% and 0%, respectively, for 6 patients with deep infiltration of the muscular layer and penetration of the bladder wall. Tumor size and localization had little effect on prognosis, and no significant differences in survival rates were found between patients with poorly differentiated transitional epithelial carcinoma and those with anaplastic carcinoma (Berqkvist Grades III and IV, respectively). The 5-and 10-yr survival rates were 45.2% and 38.3%, respectively, for the 22 patients without ureter reimplantation and 23.8% and 7.9% for those with ureter reimplantation. The 5-and 10-yr survival rates were 62.5% and 41.6%, respectively, for 8 patients without vascular invasion and 26.2% and 20.4% for 26 patients with vascular invasion. (no Refs) (In NOR)

26. THE RESULTS OF CONSERVATIVE TREATMENT IN PATIENTS WITH CARCINOMA IN SITU OF THE BLADDER (MEETING ABSTRACT)

Prout GR, Griffin PP, Heney NM, Daly JJ

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

This report is an analysis of prospectively collected data concerning patients with carcinoma in situ (TIS) treated with transurethral resection (TUR) and thio-tepa (TTPA). From 1972 through 1980 there were 127 patients in whom the diagnosis of TIS was made at Massachusetts General Hospital. Forty of these were treated with TUR and TTPA, 30 or 60 mg weekly for 4 weeks. Nearly all patients received additional TTPA according to protocol and some received courses of other cytotoxic agents intravesically. Cystoscopy, biopsies, TUR and/or fulguration were carried out at 4 monthly intervals in more than 90% of the patients during the period of observation. Urinary and saline bladder washings were obtained at cystoscopy for cytological exam in all but 3 patients. Nineteen patients never developed muscle invasion, metastatic disease or extension of cancer outside the bladder. Sixteen had complete initial response (CR) to TUR and TTPA (biopsies and cytologies negative). Thirteen had non-invasive papillary lesions (Ta) and 3 had tumors involving the lamina propria (T1) associated with TIS or as separate tumor occurrences. The average follow up period from the first diagnosis of TIS was 37 months. Twenty-one patients developed muscle invasion (6), metastatic disease (6), extension to the prostatic urethra (3), prostatic ducts (2) or prostatic substance (4). All but 4 of these patients failed to achieve a CR to TTPA. Seven had Ta lesions and 11 had T1 lesions associated with TIS or as separate tumor occurrences. The average follow up period from

the first diagnosis of TIS to progression or extension was 27 months. (no Refs)

27. EXPERIENCE WITH CYSTECTOMY AS PRIMARY TREATMENT FOR IN SITU CANCER OF THE BLADDER (MEETING ABSTRACT)

Utz DC, Farrow GM, Lieber MM, Segura JW, Zincke H
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Ten percent of patients evaluated for a first diagnosis of bladder cancer within a 10-year period had carcinoma in situ (CIS). Of 250 patients with clinically perceived CIS, 70 underwent a radical cystectomy as primary treatment. On pathologic examination stage TIS only was discovered in 46 bladders. In the other 24 specimens one or more foci of microinvasion (T1) of the original CIS was found. In the TIS group there was one operative death, and one patient died of metastatic bladder cancer 54 months after surgery. In the T1 group one patient died in the operative period, and three died of bladder cancer 46-49 months after surgery. Four other patients have died from other causes than cancer. The majority of all the patients have not reached the four-year mark which may be the critical point at which deaths from metastatic disease occurs. (no Refs)

28. PANNICULECTOMY IN CONJUNCTION WITH RADICAL CYSTECTOMY IN THE MORBIDLY OBESE PATIENT (MEETING ABSTRACT)

Klein FA, Herr HW, Sogani PC, Whitmore WF
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Operative exposure and adequate ileal loop length and vascularity can be a problem in the individual with flaccid, rounded, or pendulous abdominal obesity. Since the mid 1960's 3-4 such patients a year have been seen at Memorial Hospital who required radical cystectomy and ileal conduit diversion for invasive carcinoma of the bladder. More than adequate exposure without additional complications can be simply achieved by employing a horizontal abdominal dermolipectomy in conjunction with a midline fascial and peritoneal incision. Adequate loop length with excellent vascularity can be achieved by employing the Turnbull ileal stoma. Complications have been limited to small suprficial skin edge separations (usually in the midline) and subcutaneous fat necrosis. There have been no wound infections or fascial dehiscences. The blood loss from dermolipectomy has not exceeded 200 ml and no wound has required skin grafting. The advantages of this technique are summarized by the following: (1) Resection of excess fat and skin allow the pannis to fall away from the wound, thus achieving wide exposure of the pelvic organs. (2) Simultaneous correction of any musculoaponeurotic flaccidity reduces the incidence of postoperative hernia or dehiscence. (3) A nice flat, easily visible surface for the stoma results. (4) The patients appearance and self image is improved. (no Refs)

29. URINARY DIVERSION WITHOUT CYSTECTOMY FOR INVASIVE CARCINOMA OF THE BLADDER (MEETING ABSTRACT)

Lytton B, Schiff M
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

During the past seven years we have seen twelve patients with invasive bladder carcinoma in whom cystectomy and urinary diversion was precluded by their age and/or general medical condition. Radiation treatment alone was felt to be contraindicated in each instance because of site and/or size of the lesion as it seemed likely to lead to incapacitating voiding symptoms. Instead they underwent urinary diversion alone, and their remaining bladder was then treated with high dose radiation; any subsequent bleeding was controlled by the intravesical instillation of 10% formalin. To date four patients have died, 15, 18, 21 and 42 months following surgery, but only one of them required hospitalization prior to his terminal event. Eight patients remain alive 11-46 months (average 28.1) following urinary diversion, and all have remained essentially free of debilitating symptoms. Four of them have experienced intermittent episodes of vesical bleeding, but the urinary diversion has allowed for repetitive instillation of 10% formalin, which has been effective treatment for this problem. During this same period ten additional patients with advanced bladder cancer were also treated by urinary diversion alone followed by radiation therapy. Cystectomy in these cases was not performed because the lesions were either locally inoperable or because metastases were detected in the lymphnodes at the time of diversion. Local symptoms were controlled but this group did quite poorly; all have died with an average survival time of 10 months. (no Refs)

30. AN EVALUATION OF PELVIC RECURRENCES AFTER TOTAL CYSTECTOMY (MEETING ABSTRACT)

Montie JE, Straffon RA, Stewart BH
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The incidence of pelvic recurrences in cancer of the bladder treated by total cystectomy has gradually decreased in the last 20 years. A critical analysis of 157 cystectomies performed from 1960 through 1979 identified 17 pelvic recurrences. In 99 patients undergoing a cystectomy with no preoperative irradiation, 8 developed a pelvic recurrence. Four of these recurrences could be directly traced to a failure in the urethra and conceivably could have been prevented by a concomitant urethrectomy with the cystectomy. Two additional recurrences were noted in patients in whom a pelvic lymphadenectomy had not been performed and the recurrence was documented in local nodes. Nine patients received postoperative radiation therapy to the pelvis because of poor prognostic features in the cystectomy specimen and two still developed pelvic recurrences. Thus in 90 patients with no radiation at any time, the pelvic recurrence rate was 7% (6/90). The percentage of patients in this group with high pathologic stage lesions (T3) was similar to that reported in other series and to the other groups in this report. Thirty-four patients had a salvage cystectomy and 8 developed pelvic recurrences. Twenty-three patients had planned preoperative irradiation (1500-2400 RADS) with 1 pelvic recurrence. These data suggest that the major source of

pelvic treatment failure in patients undergoing a total cystectomy are regional lymph nodes or urethral extension. (no Refs)

31. CYSTECTOMY WITH AND WITHOUT RADIATION THERAPY: A 20 YEAR ANALYSIS (MEETING ABSTRACT)

Montie JE, Straffon RA, Stewart BH
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The clinical course of 157 patients who had a cystectomy for bladder cancer in the period 1960 through 1979 was reviewed. All patients had at least an 18 month follow-up. From 1960 through 1975, 76 cystectomies were performed (approximately 4 per year). From 1976 through 1979, 81 cystectomies were performed (approximately 20 per year). The overall operative mortality, combining the results of 11 surgeons, was 10%. Forty-two percent of the patients had the cystectomy performed more than 1 year after the diagnosis of bladder cancer. Ninety patients received no radiation therapy to their pelvis at any time, 34 had previous definitive irradiation (salvage cystectomy), 23 had planned preoperative irradiation with several different regimens, and 9 had postoperative irradiation. These 90 patients with no preoperative irradiation represents the largest contemporary series of this type and the survival rates of this group were not significantly different from other series with preoperative irradiation. The percentage of patients in this group with high stage tumors (T2 8%, T3A 20%, T3B 15%, and T4A 5%) was not remarkably different from other series. A formal pelvic lymphadenectomy was performed in 61 cases and was not associated with an increase in morbidity or mortality, nor was it associated with an increase in survival. (no Refs)

32. TREATMENT OF T3 BLADDER CANCER: CONTROLLED TRIAL OF PRE-OPERATIVE RADIOTHERAPY AND RADICAL CYSTECTOMY VERSUS RADICAL RADIOTHERAPY. SECOND REPORT AND REVIEW (FOR THE CLINICAL TRIALS GROUP, INSTITUTE OF UROLOGY).

Bloom HJ, Hendry WF, Wallace DM, Skeet RG
Dept. Radiotherapy and Oncology, Royal Marsden Hosp., Fulham Road, London SW3 6JJ, England
Br J Urol; 54(2):136-151 1982

The relative values of preoperative pelvic radiotherapy (4,000 rads) and elective radical cystectomy vs radical radiotherapy (4,000 rads plus 2,000 rads boost) for deeply invasive bladder cancer (category or stage T3 or B2C) have been explored in a multicenter prospective randomized trial involving 189 patients. All patients were eligible for analysis of 5-yr results, 174 had been followed for 7 yr and 81 patients for 10 yr. The results of this trial indicate that the prognosis for patients with deeply invasive (T3 or B2C) carcinoma of bladder is influenced by such factors as age, sex, response to irradiation, tumor size and the presence or absence of pelvic metastases. These factors are analyzed with a review of the relevant literature. At the present state of knowledge, it appears that cystectomy as an elective procedure after preoperative radiotherapy is the treatment of choice for patients aged less than 65, especially males. In patients over 65, and perhaps in females generally, the most suitable primary treatment is radical radiotherapy with salvage cystectomy reserved for highly selected patients with local tumor recurrence. Future research should be directed towards achieving a more frequent and greater response to irradiation, whether it be given preoperatively or as radical treatment. (31 Refs)

33. RESULTS OF RTOG/JEFFERSON STUDY ON COMBINED PRE AND POST-OPERATIVE RADIATION FOR CARCINOMA OF THE BLADDER (MEETING ABSTRACT)

Mohiuddin M, Kramer S, Newall J, Parsons J, Wiley A, Strong GH, Mulholland SG
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Seventy-seven patients with bladder cancer have been treated with pre and postoperative radiation in an RTOG phase I-II study and at Thomas Jefferson University Hospital. Patients with invasive bladder cancer, clinical stages B and C were entered into the study and given low dose preoperative radiation (500 rads) to the whole pelvis either on the day of or the day before cystectomy. Following surgery, patients were pathologically staged. All patients with stage B1 (grade III or IV), stages B2 and C tumors were given 4500 rads in 5 weeks postoperative radiation. Nine patients were found to have low grade (I-II) stage B1 tumors and were followed with no further treatment. Seven patients were found to have stage D disease and were given palliative therapy. Of 61 patients eligible for postoperative radiation, 48 received the full course of both pre and postoperative treatment. Thirteen patients did not receive postoperative treatment because of patient refusal (6), surgeon's noncooperation (4), and surgical complications (3). Follow-up in the study ranges from 6 months to 4 years, with a median of 28 months. Incidence of complications was 13% (10/77). Five of the complications were related to surgery and 5 to postoperative radiation. Local control of disease has been excellent, with only 1 of 48 patients failing in the pelvis. Actuarial survival by stage of disease is 65% for stage B1 (grade III or IV), 82% for stage B2, and 72% for stage C. (no Refs)

34. DISCOURAGING RESULTS FOR HIGH DOSE EXTERNAL BEAM RADIATION THERAPY IN LOW STAGE (O AND A) BLADDER CANCER.

Whitmore WF, Prout GR
Dept. Urology, Massachusetts General Hosp., Boston, MA
J Urol; 127(5):902-905 1982

Eight patients who received high dose external beam radiation therapy for low stage (O and A) bladder carcinoma with curative intent subsequently presented with recurrent tumors or complications of radiotherapy that led to cystectomy. The dismal results of high dose radiotherapy in these patients prompted us to review the published results for so-called definitive radiation therapy in patients with low stage bladder cancer. From this review and our own patients we conclude that high dose external beam radiotherapy is less than optimal treatment for patients with low stage bladder cancer. This is true for the subset of patients with tumor characteristics that place them at high risk for the subsequent development of invasive disease. (Author abstract) (28 Refs)

35. THE TREATMENT OF RECURRENT SUPERFICIAL BLADDER CARCINOMA WITH INTRAVESICAL ADRIAMYCIN (MEETING ABSTRACT)

Carnick MB, Schade D, Israel M, Naylor C, Richie JP
Sidney Farber Cancer Institute, Boston, MA, 02115
Proc Am Soc Clin Oncol; 1:C-422 1982

Twenty four patients (pts) with multiply recurrent superficial bladder cancer (Stage O,A) were treated with intermittent in-

travesical Adriamycin chemotherapy. No pt demonstrated muscle invasion. Ten pts had become refractory to previous intravesical thiotepa. Three pts had Grade I transitional cell carcinoma (TCC), 11 had Grade II TCC, and 10 had Grade III TCC. Starting dose of Adriamycin was 60 mg diluted in 40-50 ml of normal saline solution; duration of instillation was 60 minutes. Treatments were repeated every 3 weeks for 8 treatments; then every 6 weeks for 2 treatments; and then every 12 weeks for 2 treatments. Pts who entered complete remission were then observed. Adriamycin dose escalations in increments of 10 mg were carried out after 3 previous treatments at the lower dose; no patient received greater than 90 mg in any treatment cycle. All pts were followed with cystoscopy every 12 weeks and urinary cytologies; 18 pts had plasma levels of Adriamycin monitored with an extremely sensitive high performance liquid chromatography assay system during treatment. A total of 205 courses have been administered. Fourteen of 24 pts (58%) have had complete resolution of all gross evidence of superficial cancer; 3 pts have had complete resolution of gross disease, but persistently positive urinary cytologies. Three pts have had persistent gross disease at first cystoscopic evaluation following treatment, and 4 pts are too early for evaluation. (no Refs)

36. TOPICAL ADRIAMYCIN THERAPY FOR CARCINOMA IN SITU OF THE URINARY BLADDER. A FOLLOW-UP (MEETING ABSTRACT)

Jakse G, Marberger H
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Since there are recent reports on topical adriamycin (ADM) therapy for carcinoma in situ (Tis) with promising results, a follow-up report after discontinuing of therapy is lacking. During Feb 1978 and March 1981, 29 patients with Tis received topical ADM therapy. Forty mg (15) and 80 (14) ADM was instilled biweekly and monthly, respectively for 2 years. A tumor remission indicated by negative cytology and lack of Tis in any of the multiple bladder biopsies could be achieved in 19 patients. Ten patients with tumor remission completed the 2 year treatment program and could be followed 6 to 19 months subsequently. Three of these developed again areas of Tis 5 to 12 months after discontinuing treatment. Newly instituted ADM therapy resulted in tumor remission. In addition one of the 3 patients experienced a right distal ureteric tumor after 9 months. All patients showed mild to moderate fibrotic alterations of the lamina propria, although there was no decrease in bladder capacity except in one who had previous radiotherapy. The necessity to continue ADM therapy for more than 2 years is stressed by 'recurrence' of Tis in 3 of 10 patients off treatment. Fibrosis of the lamina propria is a late result of ADM therapy. (no Refs)

37. ABSORPTION STUDIES OF MITOMYCIN C (MMC) DURING INTRAVESICAL TREATMENT OF SUPERFICIAL BLADDER CANCER (MEETING ABSTRACT)

Wajsman Z, Lee F, MacDonald S, Sandberg A, Pontes JE
Roswell Park Memorial Institute, Buffalo, NY, 14263
Proc Am Soc Clin Oncol; 1:C-452 1982

Since 1967 MMC has been shown to be effective in the treatment of superficial bladder cancer. Although studies in the past revealed no evidence of systemic absorption of this drug, its safety in consecutive instillations into a bladder with altered mucosa has yet to be proven. The study describes the results of absorption of MMC in patients with evidence of active superficial bladder cancer with recent resection and/or after previous radiation therapy. The solution containing 40mg of MMC in 40ml of sterile water was instilled into the bladder and retained for two hours. The bladder content was withdrawn and the amount of MMC recovered from the bladder was calculated. Blood samples were collected at 0.5, 1.0, 1.5, 2.0, and 2.5 hours after dosing. The recovery of the MMC from the pooled bladder content was quantitative and approached almost 100%. Approximate average loss of 1% of the drug from the bladder was noted after 2 hours however around 1% of the loss of the MMC was observed from the original solution incubated at 37C in darkness. The loss of 1% of MMC from the bladder was due mainly to metabolic breakdown. There was no MMC concentration detected in serum above 20ng/ml and no systemic effects were noted. No evidence of alteration of the RBC, WBC, or platelet was seen. No sister chromatid exchange was noted in peripheral lymphocytes in all patients. (no Refs)

38. THE USE OF INTRAVESICAL CIS-PLATINUM AND MITOMYCIN C FOR RECURRENT TRANSITIONAL CELL CARCINOMA OF THE BLADDER REFRACTORY TO INTRAVESICAL THIO-TEPA (MEETING ABSTRACT)

Mobley WC, Loening SA, Narayana AS, Culp DA
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The high incidence of recurrence following the initial management of superficial transitional cell carcinoma of the bladder (TCCaB) is well known. Thio-tepa is the drug used most often in this setting. Intravesical Mitomycin C has also shown promise. Cis-platinum has proven activity in patients with metastatic TCCaB and in experimental bladder cancer models. Patients who have no response to one intravesical agent such as Thio-tepa may respond to other agent(s) such as Mitomycin C or Cis-platinum. In this report we have evaluated 10 patients with superficial recurrent TCCaB who showed no response to intravesical Thio-tepa were subsequently treated with Mitomycin C or Cis-platinum. The results were judged to be no response (NR), partial response (PR) or complete response (CR) based on findings from follow-up cystoscopy, bladder biopsies and cytologies. Six patients were treated with Cis-platinum and 4 with Mitomycin C. The 4 treated with Mitomycin C had CR or PR within three months. Of the 6 treated with Cis-platinum, 4 had CR or PR within three months, and 2 had NR. The 2 who had NR to Cis-platinum were switched to Mitomycin C. One of these had a CR and the other had NR. During the follow-up period, which averaged 23 months, 4 patients had the intravesical treatment discontinued due to the persistent lack of identifiable tumor. However, even this group had late recurrences. Three of these four have shown a second CR or PR following the readministration of intravesical chemotherapy. Patients with recurrent TCCaB refractory to one intravesical agent can respond to a second or third agent. (no Refs)

39. RESPONSE OF DIFFUSE TRANSITIONAL CELL CARCINOMA TO LOW DOSE INTERFERON (MEETING ABSTRACT)

Aleman C, Khan A, Hill JM, Pardue A, Hilario R, Hill NO
Wadley Institutes of Molecular Medicine, Dallas, TX, 75235
Proc Am Soc Clin Oncol; 1:C-436 1982

Each of two patients receiving an intermittent low dose schedule of human leukocyte interferon for diffuse bladder carcinoma of transitional type experienced complete responses. These were verified by cystoscopic examination and biopsy prior to treatment and on a number of occasions thereafter. The schedule consisted of 3 million units of interferon intramuscularly per day for three weeks followed by four weeks of rest. The complete responses are verified by cystoscopy and biopsy at 11 and 7 months respectively. The second patient has refused further cystoscopies and biopsies, but has been asymptomatic for sixteen months. Six additional patients have so far been enrolled to a larger study including more advanced stages because of the striking findings in the first two patients. The clinical course of these patients will be summarized. (no Refs)

40. STATISTICAL CONSIDERATIONS IN INTERPRETING THERAPEUTIC RESULTS IN BLADDER CANCER (MEETING ABSTRACT)

Cutler SJ, Prout GR, Shipley WU, Cummings K, Einstein A, Friedell G
No affiliation given
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To what extent are observed results of treatment a reflection of specific treatment effects? Comparison of recent experience in the treatment of bladder cancer with historical controls may lead to erroneous conclusions because review of clinical records may not reveal relevent changes in patient and disease characteristics or changes in criteria for selection of treatment. In support of this opinion are data concerning cystectomy in the treatment of 617 patients with newly diagnosed bladder cancer seen in member institutions of National Bladder Cancer Collaborative Group A. In addition, specific attention is given to selection factors that influenced the entry of patients into a controlled clinical trial to assess the efficacy of cis-platinum as an adjuvant treatment following preoperative radiation and cystectomy for patients with invasive bladder cancer. Of 312 patients with histologic evidence of invasive bladder cancer, only 131 met the eligibility criteria for initial entry to the study; to date, 99 completed the prescribed course of radiotherapy and radical cystectomy, and only 54 have been randomized to adjuvant chemotherapy versus control. The experience in this study illustrates that the results of a clinical trial must be interpreted with care. (no Refs)

41. THE RISK OF UPPER URINARY TRACT TUMOR IN PATIENTS WITH BLADDER CARCINOMA (MEETING ABSTRACT)

Mechali P, Correa RJ
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

It is a prevalent opinion that patients with bladder tumors (BT) are at high risk for developing transitional cell upper urinary tract tumors (UTT). As a corollary, it is an accepted practice to do repeated routine IVP to monitor for the appearance of such tumors. We undertook the current study in order to test the validity of that approach. First, we analyzed the charts of 382 patients referred to the Mason Clinic for bladder tumor, between 1943 and 1971, and followed up for 10 years or more, or until their death. BT preceded UTT concomitant 1/382-BT and UTT concomitant 1/382. BT occurred after UTT was diagnosed: 7/382. No UTT 373/382. Second, we looked at 52 patients referred to the Mason Clinic for upper urinary tract transitional cell tumors between 1943 and 1981, an overlapping but not identical population: BT before UTT: 2/52-BT and UTT concomitant 5/52 (one subsequently recurred) - BT after UTT: 12/52. No BT 33/52. The incidence of 3.8% of UTT preceded by BT is impressive, but one has to observe that this reflects the referral bias of a large institution (which is more likely to publish and set trends in the practice of urology). On the other hand, only .26% of BT were found to be followed by UTT. This suggests that in unselected BT, it may not be indicated to do repeated routine IVP in otherwise asymptomatic patients to screen for UTT. (no Refs)

42. TRANSITIONAL CELL CARCINOMA OF THE BLADDER IN CHILDREN (MEETING ABSTRACT)

Andriole GL, Lack E, Bauer SB, Colodny AH, Retik AB
No affiliation given
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Similar to adult urothelial tumors, the most common presentation in childhood is painless gross hematuria (70%). The male predilection (9:1) in children is more marked than that seen in adults, as is the propensity of these tumors to be low-grade, papillary, unifocal, and non-invasive (90%). The natural history of these tumors further contrasts with the adult experience in that recurrence after initial resection is very unusual (less than 5%). In considering the pathobiology of these childhood tumors, it is important to distinguish benign 'papilloma' from malignant 'papillary transitional carcinoma'. Only the latter growths display atypical epithelium, and clinically, they tend to recur and invade, whereas papillomas don't. The observed similarity in the behavior of papillomas and reported childhood papillary tumors raises the possibility that some of the reported cases, particularly those with ambiguous histopathology, may in fact represent papillomas rather than carcinomas. Hence, the incidence of true papillary transitional cell carcinoma in children may be even lower than heretofore expected. The surgical management of these childhood urothelial tumors has varied from transurethral resection, to suprapubic, transvesical excision, and in some cases, to partial cystectomy. Experience with those cases with adequate follow-up suggests that any method which assures total resection of the primary tumor with minimal morbidity is appropriate. (no Refs)

43. COMPARISON BETWEEN THE METHODS OF INDIRECT IMMUNOFLUORESCENCE AND SPECIFIC RED CELL ADHERENCE IN DETECTING ABH ISO-ANTIGENS IN BLADDER CARCINOMA.

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Am J Clin Pathol; 77(5):548-554 1982

We compared the method of indirect immunofluorescence (IIF) with that of specific red blood cell adherence (SRCA) for detecting ABH blood group substance (BGS) on Stage O papillary transitional cell carcinoma (TCC) of the bladder. In evaluating BGS 'positivity' or 'negativity' both methods gave

identical results. The IIF is somewhat easier to perform and less subjective in interpretation while the SRCA method needs only a conventional light microscope and the slides themselves are permanent 'records'. In cases of questionable reactivity with the SRCA, the IIF was a helpful adjunct. The IIF method is a viable option to the SRCA method when studying TCC for BGS. (Author abstract) (14 Refs)

44. IDENTIFICATION OF BLADDER CANCER ASSOCIATED ANTIGENS BY TWO-DIMENSIONAL IMMUNOELECTROPHORESIS (MEETING ABSTRACT)

Hewitt CW, Shultz SM, Cote J, Miller B, Martin D
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association Missouri. American Urological Association 254 pp., 1982.

Urine specimens collected from bladder carcinoma patients and normal individuals were analyzed using two-dimensional immunoelectrophoresis (2D-IEP) in an effort to identify bladder tumor associated antigens. Only urine samples determined to be sterile by bacteriological culture were included in the study. Urine samples were concentrated 100 X by ultrafiltration using an Amicon PM-10 ultrafilter. Rabbit anti-bladder cancer urine sera was raised by multiple injections of a combined sample of a concentrated urine collected from 9 bladder carcinoma individuals for use in the 2D-IEP procedure. Preliminary results using polyacrylamide gel electrophoresis demonstrated that a combined sample of normal urine could be resolved into approximately 1 to 3 protein bands, but a single concentrated bladder cancer urine could be resolved into approximately 11 protein bands. However, 2D-IEP resolved this same concentrated bladder cancer urine into at least 17 antigen bands, thus demonstrating the sensitivity of the technique. Using 2D-IEP we found a significant difference in the number of slow migrating antigens after comparing normal and bladder cancer concentrated urines. Bladder cancer urines averaged 5.9 bands (9) in the slow migrating region, whereas normal urines averaged 3.0 bands (6). An advantage to the use of a 2D-IEP for urine analysis is that not only does this procedure separate unknown urine antigens very effectively, but it also provides information concerning the relative concentration of the antigen. (no Refs)

45. THE USE OF AVIDIN-BIOTIN-PEROXIDASE COMPLEX (ABC) IMMUNOPEROXIDASE TECHNIQUE FOR IDENTIFICATION OF CELL SURFACE A, B, OR H BLOOD GROUP ANTIGENS IN BLADDER CARCINOMA: A COMPARISON BETWEEN ABC AND SPECIFIC RED CELL ADHERENCE (SRCA) TECHNIQUES (MEETING ABSTRACT)

Newman AJ, Carlton CE, Murphy WM
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The major blood antigens A, B, or O (H) are present on normal urothelium. The presence or absence of these antigens on the cell surface of bladder tumors, as measured by the specific red cell adherence (SRCA) technique, has been shown to have prognostic value. In a series of 322 patients with superficial bladder tumors, we found that 71 of the 99 patients with a negative SRCA reaction subsequently developed an invasive lesion. While encouraging, this still left a 30 percent false negative rate. In an effort to increase the sensitivity of the assay, we have applied the avidin-biotin-peroxidase complex (ABC) immunoperoxidase technique of Hsu and coworkers to a series of 100 randomly selected formalin-fixed bladder tumor specimens from the prior SRCA study. One of us (WMM) did all of the ABC histochemical staining with no knowledge of the subsequent clinical course which consisted of either no recurrence in 5 years (25 cases), multiple superficial recurrences (25 cases), recurrence with invasion (25 cases); 25 cases represented transitional cell carcinoma with muscle invasion. Based upon recent data by Allen and coworkers showing that the purified Ulex europaeus lectin agglutinates erythrocytes of all three blood groups with little distinction between types O (H) and B, we have utilized biotinylated purified Ulex as the primary antisera in the ABC technique for all blood types. All of the invasive tumors showed delection of blood group antigen as previously found with the SRCA technique. The false negative rate using the ABC technique was only 10 percent (3 of 28). (no Refs)

46. LOCALIZATION OF HEMATOPORPHYRIN DERIVATIVE IN TRANSITIONAL CELL CARCINOMA OF THE BLADDER (MEETING ABSTRACT)

Benson RC, Farrow GM, Kinsey JH, Cortese DA, Zincke H, Utz DC
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Two mg/kg of body weight to hematoporphyrin derivative (HpD) was given intravenously to three groups of patients with transitional cell carcinoma of the urinary bladder. Group I patients underwent cystectomy and the cystectomy specimen was subsequently exposed to blue light. Fluorescent areas, as well as random areas, were biopsied and examined pathologically. The specimen was also scanned with our endoscopic fluorescence detector probe. Group II patients underwent cystoscopy with our detection device and endoscopic marking of all positive areas prior to cystectomy. The cystectomy specimen was then exposed to blue light and random areas, as well as previously marked areas and fluorescent areas, were biopsied. Group III patients underwent cystectomy. The cystectomy specimen was exposed to blue light and photographs of the fluorescence obtained. The bladders were then subjected to complete pathologic bladder mapping and maps correlated with the fluorescent photographs. Results indicate that with proper timing HpD is taken up only in dysplastic and neoplastic transitional cell epithelium. In addition, by using our detection device, we have been able to localize these abnormal areas during the performance of a routine cystoscopic examination. Our localization studies have prompted us to begin treatment of patients with resistant carcinoma in situ of the urinary bladder with intravenous HpD and laser light (630 nm) delivered through rigid and flexible endoscopic instruments. (no Refs)

47. THE SIGNIFICANCE OF PLOIDY AND PROLIFERATION IN THE CLINICAL AND BIOLOGICAL EVALUATION OF BLADDER TUMORS: A STUDY OF 100 UNTREATED CASES.

Tribukait B, Gustafson H, Esposti PL
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Br J Urol; 54(2):130-135 1982

Cell material from 100 cases of newly diagnosed bladder tumors was studied with rapid flow cytofluorometric DNA analysis. The degree of ploidy and the percentage of cells in the S-phase characterizing the proliferation pattern of the tumors were determined from DNA histograms. The results

were related to the tumor categories and to the histopathological grading of the tumors. Approximately 40% of T1 tumors showed aneuploid DNA patterns, while in the other categories aneuploidy was found in almost all cases. With few exceptions, tumors of Grade 1 were found to be diploid and tumors of Grade 3 aneuploid. In tumors of Grade 2, two-thirds were diploid and one-third aneuploid. In the group of aneuploid tumors the tetraploid cases exhibited the least malignant characteristics as judged by histological grades and tumor categories. The aneuploid non-tetraploid tumors increased in malignancy the more they deviated from tetraploidy. This might be explained by our observations of a positive correlation between the degree of ploidy and the degree of proliferation. The proliferation increased from 10% in tetraploid tumors to 20% in triploid and pentaploid tumors. (Author abstract) (14 Refs)

48. EPIDEMIOLOGIC SURVEY OF BLADDER CANCER IN GREATER NEW ORLEANS (MEETING ABSTRACT)

Sullivan JW
No affiliation given
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The primary ancestry of the cases and the controls was not statistically different, but the Jewish population had a significantly greater increased incidence of bladder cancer. Overall, a significantly greater number of cases smoked filtered cigarettes, commenced consumption of artifical sweetened beverages at an ealier age, drank artificial sweetened beverages for a greater number of years, consumed a greater number of glasses of artificial sweetened beverages per week and related a history of urinary tract infections. A significantly increased incidence of bladder cancer was noted in individuals employed by certain types of companies, by certain job titles, and by certain job material handled. Analysis of the data failed to show any significant difference in years of consumption of coffee, amount of various types of coffee or tea consumed, consumption of various alcoholic and non-alcoholic beverages including source of drinking water, usage of hair dye, incidence of diabetes mellitus, family history of urinary cancer, history of pelvic irradiation or bladder stones. (no Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

49. COMPUTED TOMOGRAPHY IN STAGING OF CARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

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Eighty-second Annual Meeting of the American Roentgen Ray Society, May 10-14, 1982, New Orleans, Louisiana The American Roentgen Ray Society; :A56 1982

The value of computed tomography (CT) complimented by sagittal, coronal and multiplanar reconstructions in assessment in staging of carcinoma of the prostate is discussed on basis of 42 surgical proven cases. The method was proven highly sensitive for identification of contiguous extension of tumor into the seminal vesicals, posteriorly into the perirectal fat or rectosigmoid itself. Enlarged nodes of the internal iliac, obturator, paraortic and particularly retrocrural node groups are also readily demonstrable. CT guided thin needle biopsy was successful in identifying metastatic carcinoma of the prostate in four of seven such enlarged noded subsequently proven to harbor carcinoma of the prostate (other than microscopic implants). The method is particularly lauded for identifying enlarged retrocrural nodes proven to harbor carcinoma of the prostate in patients with no other discernible evidence of metastatic disease, but prone to development of pulmonary metastases. (no Refs)

50. COMPLICATIONS OF THE STAGING PELVIC LYMPHADENECTOMY IN PROSTATIC ADENOCARCINOMA (MEETING ABSTRACT)

Donohue RE, Mani JH, Biber RJ, Whitesel JA, Augspurger RR, Scanavino DJ, Fauver HE, Pfister RR
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

There is no therapeutic effect as yet assigned to pelvic lymphadenectomy. Each surgeon must decide himself the value of the information secured in planning his patient's therapy vs the cost of its procurement in regard to patient morbidity. Two hundred and eighty-four cases of pelvic lymphadenectomy in locally confined adenocarcinoma of the prostate were reviewed. One hundred and six patients had a pelvic node dissection only, 125 patients have node dissection and retropubic 125 Iodine implantation while 53 patients had node dissections and simultaneous or delayed radical prostatectomy. There was 1 death on the 2nd post-operative day. Twelve intraoperative complications were recognized during the pelvic lymphadenectomy and 5 additional complications were recognized in the post-operative period. Among the complications were 2 small bowel lacerations, 2 inadvertant cystotomies, 3 venous hemorrhages, 1 ureteral injury, and 1 obturator nerve and 1 genitofemoral nerve were transected. Among the early surgical complications, there were 7 wound infections, 3 dehiscences, 2 pelvic hemorrhages, 3 pelvic abscesses and 12 lymphoceles. Other early non-surgical complications included 1 myocardial infarction, 1 episode of congestive heart failure, 2 cases of pneumonia, 5 episodes of thrombophlebitis and 5 patients sustained pulmonary emboli, an incidence of 20%. Thirteen patients with positive nodes sustained 15 complications while 43 patients with negative nodes were recorded as having 62 complications. Among the late complications were persistent limb edema in 14, limb and genital edema in 2 and 1 patient sustained genital edema only. Eight of our patients were anticoagulated; 1 developed a lymphocele and 1 had a pelvic hemorrhage. There were no pulmonary emboli in the anticoagulated group. (no Refs)

51. LYMPHOSCINTIGRAPHY FOR THE DETECTION OF PELVIC NODAL METASTASES FROM PROSTATIC CANCER (MEETING ABSTRACT)

Morse MJ, Yeh SJ, Vagalwala MR, Whitmore WF
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

To investigate the value of lymphoscintigraphy (LSG) for the detection of pelvic lymph node metastases 51 patients with prostatic cancer were imaged in a large field gamma camera 4 hours after injection of technetium 99 labelled antimony colloid. Results of the radionuclide scans were correlated with lymphangiograms (LAG) and/or surgicopathologic findings and revealed a 25% false positive rate and a 15% false nega-

tive rate. One-half of the false negative examinations was noted in patients with microscopic nodal metastases. Lymphoscintigraphy is a relatively simple, non-invasive procedure which causes no morbidity and is less time consuming than the conventional LAG. Our favorable results with LSG indicate its potential usefulness for the early detection of lymph node metastases from carcinoma of the prostate. The accuracy of this procedure may exceed that of the conventional LAG. (no Refs)

52. GRADING ERRORS IN PROSTATIC NEEDLE BIOPSIES: RELATION TO THE ACCURACY OF TUMOR GRADE IN PREDICTING PELVIC LYMPH NODE METASTASES.

Catalona WJ, Stein AJ, Fair WR
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J Urol; 127(5):919-922 1982

To examine how accurately needle biopsies reflect the true histologic grade of prostatic cancers the histologic grade of needle biopsy specimens was compared to that of the radical prostatectomy specimen in 66 consecutive patients. Needle biopsies were given a lower grade than the prostatectomy specimen in 21 patients (33%) and a higher grade in 5 patients (8%). To examine how accurately the tumor grade of needle biopsy specimens predicts lymph node metastases in patients with clinical Stage B prostatic cancer the needle biopsy grade was compared to lymph node metastases in 78 consecutive patients who underwent staging pelvic lymphadenectomy. Thirteen percent of the patients with well differentiated cancer, 50% with moderately differentiated cancer and 64% with poorly differentiated cancer had pelvic lymph node metastases. In most cases grading errors did not influence the capacity of needle biopsies to predict nodal involvement. We conclude that although prostatic needle biopsies are associated with significant errors in grading they do provide valuable information about the predominant histologic pattern, which reflects the biologic potential of the tumor. (Author abstract) (8 Refs)

53. EXTRACAPSULAR TUMOR EXTENSION IN CLINICAL STAGE B-2 PROSTATE CANCER (MEETING ABSTRACT)

Catalona WJ, Fleischmann J, Menon M
No affiliation given
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Walsh and Jewett reported that patients with clinical stage B-2 (one or more lobes) prostate cancer not staged by pelvic lymphadenectomy are not ideal candidates for radical prostatectomy because nearly 50% have seminal vesicle invasion. Analyzing patients who were staged by pelvic lymphadenectomy, Middleton and Smith reported that 43 of 50 with stage B-2 lesions (greater than 2 cm in diameter) and documented negative nodes had tumors that were histologically confined to the prostate. They suggested that patients with B-2 lesions and negative nodes are appropriate candidates for prostatectomy. In the present study, using a different definition of stage B-2 (lesions involving both lobes of the prostate), we found that 9 of 25 with B-2 lesions and documented negative nodes had extracapsular tumor extension, while only 4 of 37 with B-1 (one lobe) lesions and negative nodes had extracapsular extension. (no Refs)

54. URETHRAL SPREAD OF CARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

Varady S, Mahoney EM
No affiliation given
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We have recently managed two patients with carcinoma of the prostate with urethral metastases. The cystoscopic findings were surprising, though they are very characteristic. There is a beaded appearance to the mucosal lining and there are hard nodular luminal filling defects. One patient presented in urinary retention. The pertinent anatomical pathways of metastatic spread are presented. The response to treatment is illustrated, and a pertinent review of the literature is included. (no Refs)

55. STAGE D1 ADENOCARCINOMA OF THE PROSTATE - THE PROGNOSIS (MEETING ABSTRACT)

Donohue RE, Mani JH, Biber RJ, Whitesel JA, Augspurger RR, Scanavino DJ, Fauver HE, Pfister RR
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The current classification of prostatic adenocarcinoma assigns a separate stage to patients with clinically locally confined disease, a normal acid phosphatase and a bone scan free from metastases, who are found at pelvic lymhadenectomy to have metastatic disease to the obturator, hypogastric and external iliac nodes - Stage D1. The Denver experience with staging pelvic lymphadenectomy in 318 cases reveals a 22% incidence of metastatic disease in the pelvic nodes. As the grade worsens in each clinical stage, the incidence of positive nodes increased. Fifty cases are analyzed with a minimum follow-up of two years. Twenty-two patients showed treatment failure (44%). The appearance of metastatic disease was documented by a persistently elevated acid phosphatase, positive bone scan, soft tissue metastases, or ureteral obstruction. 125 Iodine implantation only to the prostate and seminal vesicles in the presence of positive nodes is inadequate therapy for cure. Wide portal radiation with a marrow portal boost to the prostate and seminal vesicles also failed in our experience in about 50% of the patients within a few years. (no Refs)

56. PELVIC LYMPH NODE METASTASIS FROM PROSTATIC CANCER: INFLUENCE OF TUMOR GRADE AND STAGE (MEETING ABSTRACT)

Smith JA, Middleton RG
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Accumulating evidence supports the contention that the status of the pelvic lymph nodes is crucial in selecting prostatic cancer patients for potentially curative therapy. Non-invasive methods to assess the pelvic lymph nodes are plagued with false positive and negative rates which we consider unacceptable for a staging procedure of such critical importance. In the past decade 452 patients have been subjected to a pelvic lymph node dissection for staging of apparently localized prostatic cancer. Pathologic material was reviewed on all patients and a Gleason grade assigned to the tumor. No patient with a Stage A1 lesion had nodal metastasis while 24% of those with A2 disease had positive pelvic nodes. In Stage B1 tumors the incidence of nodal metastasis was strongly influenced by tumor

grade as only 4% (2/52) of patients with well differentiated (WD) lesions (Gleason sum of 2, 3, or 4) had nodal metastasis compared to 33% of those with poorly differentiated (PD) tumors (Gleason 8, 9, or 10). A similar correlation was seen in Stage B2 lesions where nodal metastasis ranged from 18% in WD tumors to 43% in PD lesions. In Stage C cancer 50% of patients with WD tumors and 93% (13/14) with PD tumors had positive nodes. The majority of patients in all stages had moderately differentiated lesions wherein lymph node metastasis occurred in 14% of B1 tumors, 27% of B2 and 41% of Stage C. WD tumors were more common in low stage lesions while PD tumors occurred more often in Stage C. Overall nodal metastasis occurred in 10% of patients with WD tumors, 24% with MD and 54% of PD lesions. Unlike the findings of some smaller series the predictive value of combining grade and stage in our experience is not sufficiently accurate to preclude pelvic lymphadenectomy except in WD B1 tumors and PD Stage C lesions. (no Refs)

57. PREDICTION OF PELVIC LYMPH NODE METASTASIS IN ADENOCARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

Olsson CA, Tannenbaum M, Babayan R, O'Brien M, DeVere White R
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

One hundred and thirty patients with clinically localized, biopsy-proven adenocarcinoma of the prostate have undergone surgical pelvic lymph node staging. Initial prostate biopsies were analyzed by histologic grading according to the system described by Gleason. Gleason scores were correlated with presence of pelvic lymph node metastases. Although Gleason scores of 8-10 were generally correlated with pelvic node involvement, there is no predictive value to Gleason scores 5-7. Futhermore, nearly 20% of patients with Gleason grade 2-4 experienced lymph node metastases. The prognostic limitations of Gleason scoring supports the continued assessment of pelvic lymph node status in patients who have other than high Gleason scores. (no Refs)

58. QUANTIFICATION OF BONE METASTASES IN PROSTATE CANCER: A PLEA FOR STRATIFICATION OF STAGE D IN CLINICAL TRIALS (MEETING ABSTRACT)

Jacobi GH, Riedmiller H, Hahn K, Hohenfellner R
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Randomization is a prerequisite for clinical trials. Stratification into further treatment arms of patients with risk factors, however, is only rarely achieved in prostatic cancer therapy studies. Thus under the term 'stage D disease' an inhomogeneous group of patients is classified usually including metastatic lesions greatly varying in site, size and prognosis. Even the term 'bone lesion' poorly characterizes the true risk of the patient when entering a given treatment arm. In a retrospective study of 670 patients we evaluated the multiplicity of osseous metastases as a clinical risk factor and compared the death rates of patients with multiple bone metastases to those with other potential risks. Multiplicity of bone metastases and upper urinary tract dilatation proved to be of poor prognosis, the death rates being 48.3 and 33.9 respectively, significantly exceeding the average value. In a prospective study of 106 patients with bone metastases, osseous spread was quantified on radioisotope scans. Scans were divided into the following regions: skul, shoulder girdle, chest and vertebra, pelvic girdle, and lower extremities. The number of regions involved were determined ('N' pattern 1-5) and the quantity of metastatic involvement per region was estimated: 'Q1' increased tracer imaging in up to 50%, 'Q2' involvement of more than 50% of a given region. While the 3-year survival was not affected by the 'R' pattern, it was significantly affected by the number of regions and the metastatic quantity, being only 18% for patients of pattern N4+5 and 21% for patients of pattern Q2. (no Refs)

59. AN EVALUATION OF THE GLEASON CLASSIFICATION SYSTEM IN PROSTATE CANCER (MEETING ABSTRACT)

Guinan P, Ray V, Totonchi E, Bush I
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Prognosis is important in assigning therapy in any malignancy. This is particularly true when planning potentially dibilitating surgery or chemotherapy in elderly patients with prostate cancer. This study evaluated three prognostic systems (Gleason classification, Whitmore staging and Broder grading) in 93 patients. Standard histologic preparations of prostate cancer specimens from 91 patients undergoing radical prostatectomy were reviewed and classified according to the Gleason system. Statistical correlations were made between the results of the Gleason classification and disease-free status at a mean of 35 months of survival, as well as the Whitmore staging and the Broder's grading systems. Disease free survival correlated with a lower Gleason classification, Whitmore stage and Broder's grade. The correlations between the various systems and disease free status showed no statistically significant differences between Gleason, Whitmore or Broder's systems and presence or absence of prostate cancer. The overall accuracy of the Whitmore and Broder's systems exceeded that of the Gleason classification. The results of this study suggest that the Gleason classification system has no prognostic advantage over other commonly employed systems. (no Refs)

60. GRADING OF PROSTATIC CARCINOMA - AN EVALUATION OF 346 PATIENTS (MEETING ABSTRACT)

Schroeder FW, Blom JH, Hop WC, Mostofi FM
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The goal of this study was the evaluation of the prognostic significance of 12 histological and cytological parameters commonly used for grading of prostatic carcinoma. Each one of these parameters was correlated to the survival data of 346 patients treated by radical prostatectomy. The technique of Kaplan and Meier was used. The presence of multiple histologically distinguishable formations within one tumor is a well known obstacle in grading of prostatic cancer. All 668 formations found were evaluated according to all 12 parameters. Subsequently, tumors with single formations were identified and survival was analyzed within this group. This analysis was used to determine the prognostic impact of all parameters. Statistically significant differences in survival were only found for the parameters glandular differentiation and nuclear anaplasia. Nuclear size, cell size, amount of tumor and the presence of mitoses were of adjuvant value. Subsequently the results obtained for tumors with single formations were applied to the

analysis of patients with multiple formations. It was shown with statistical significance that the worst part is the most powerful determinant but that the presence of multiple formations improves the prognosis. Finally, an attempt was made to replace the computation of the pathologist of a 'grade' by any one of the single parameters. This was unsuccessful. From the data presented suggestions for an optimized grading system for prostatic carcinoma can be derived. (no Refs)

61. STAGE A CANCER OF THE PROSTATE: SURGICAL STAGING AND TREATMENT (MEETING ABSTRACT)

Mesrobian HG, Williams RD
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Stage A cancer of the prostate occurs in approximately 10% of patients at prostatectomy for benign disease. One-third of these patients will have disease of high grade and/or stage (A2) and are therefore subject to tumor progression. We have encountered 30 patients with stage A cancer of the prostate in the last two years. All patients had repeat staging transurethral prostatectomy (TURP) shortly following diagnosis. Twenty-three patients had no further tumor, were therefore designated A1 disease, and received no further treatment. Six patients had further tumor at staging TURP and were designated stage A2. All of these patients had negative bone scans and normal serum acid phosphatase levels. All A2 patients had pelvic lymphadenectomy and radical retropubic prostatectomy completed soon after staging TURP. Residual tumor was confined to the prostate in five of six patients. We conclude that (1) repeat TURP as soon as one week following the initial prostatectomy does not preclude accurate pathologic diagnosis, (2) stage A2 designation should not preclude surgical staging, and (3) radical prostatectomy shortly following staging TURP is not unduly difficult or subject to increased morbidity. (no Refs)

62. THE RESULTS AND SIGNIFICANCE OF PROSTATIC BIOPSY AFTER DEFINITIVE IRRADIATION FOR CARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

Scardino PT, Delaune JM, Hoffman GS, Guerriero WG, Carlton CE
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Based largely on the data of Cox and Stoffel it has been become widely accepted that the persistence of prostatic carcinoma in biopsy specimens months or years after definitive irradiation has no clinical significance. Cells which appear morphologically intact have been sterilized by the irradiation and eventually die. Yet pathologists commonly interpret post irradiation biopsies as 'viable' or 'nonviable' carcinoma. Among a large population of patients with localized prostatic cancer treated with pelvic lymphadenectomy, gold grain implantation, and external beam irradiation, routine biopsy of the prostate was performed one or more times between 6-36 months after therapy in 129 patients. None had clinical evidence of active disease when the biopsy was done and no patient received hormonal therapy until relapse. Of the 129 patients, 50 had at least one positive biopsy but in the other the biopsy was consistently negative. Actuarial disease-free survival rates were calculated by Kaplan-Meier analysis. Follow-up ranged from 1 to 11 years. Patients with negative biopsies had disease-free survival rates at 5 to 10 years of 77% and 75%. Patients with a positive biopsy fared much worse, with disease-free survival rates at 5 and 10 years of only 45% and 0%. There as no difference in survival based on whether the residual carcinoma was considered 'viable' or 'nonviable'. (no Refs)

63. PROSTATE BIOPSY ONE YEAR AFTER I-125 TREATMENT FOR CARCINOMA (MEETING ABSTRACT)

Cerny JC, Moeller R, Farah RN, Oborodnik J
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Sixteen of 55 patients receiving interstitial I-125 and pelvic node dissection treatment for Stage A-2, B and C prostatic carcinoma underwent perineal needle biopsy of the prostate 1 year following operation. Seven of the 16 patients (43.7%) had residual neoplasm, while in 9 biopsies were negative. Comparison of the positive post treatment biopsies with the original neoplasm revealed a spectrum of change, ranging from no apparent radiation effect upon the neoplastic cells, to overt necrosis of and fibrotic reaction about the neoplasm. The finding of a positive biopsy was not related to original degree of differentiation of the neoplasm, degree of apparent radiation effect upon incidentally obtained benign prostate tissue, tumor mass, or absolute irradiation dosage. This finding of greater than 40% positive biopsies one year after I-125 treatment raises questions of adequacy of treatment, and whether residual neoplasm is 'viable' and has potential for progression. Recently developed prostate tissue culture techniques may permit a definite judgement regarding 'viability'. (no Refs)

64. EXTENDED FIELD RADIATION THERAPY VERSUS DELAYED HORMONAL THERAPY IN NODE POSITIVE PROSTATIC ADENOCARCINOMA.

Paulson DF, Cline WA, Koefoot RB, Hinshaw W, Stephani S, Uro-Oncology Research Group
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J Urol; 127(5):935-937 1982

This study was undertaken to determine the disease control and survival advantage of either extended field megavoltage irradiation or delayed androgen ablation in a randomized clinical trial. Comparison of the two treatments, using either time-to-first evidence of treatment failure or survival, demonstrates an advantage to extended field radiation. (Author abstract) (10 Refs)

65. TREATMENT OF HORMONE-RESISTANT METASTATIC CARCINOMA OF THE PROSTATE WITH 5-FU, ADRIAMYCIN, AND MITOMYCIN-C (FAM) (MEETING ABSTRACT)

Kasimis BS, Moran EM, Miller JB, Forbes KA, Chalfin SA, Kaneshiro CA, Poblet MT
Veterans Administration Medical Center, Long Beach, CA, 90822
Proc Am Soc Clin Oncol; 1:C-415 1982

The FAM regimen has been successfully employed in the treatment of several adenocarcinomas. We treated 13 pts with metastatic hormone-resistant carcinoma of the prostate. The median age was 61, the median ECOG performance status was 1. Sites of measurable or evaluable disease were: bones in 11 pts, bones and lymph nodes in 1, and bone and pleural mass in 1. The treatment consisted of: 5-fluorouracil (5-FU) 600 mg/M(2)/24 hrs by continuous iv infusion on days 1-5 and 28-32; Adriamycin 30 mg/M2 iv bolus on days 1 and 28, and mitomycin-C 10 mg mg/M2 iv bolus on day 1 of each 56-day cycle. A

minimum of two cycles was considered necessary for evaluation. Disease stabilization occurred in 7 pts. The remaining 6 had progressive disease. The median follow-up was 22 wks. The median duration of response for stable pts was 24+ wks and the median survival has not been reached. The pts who progressed had a median survival of 26 wks. Transient nausea occurred in 5/13, vomiting in 1/13, and mild mucositis in 1/13. The median nadir leukopenia was 2,900 and the median nadir thrombocytopenia was 98,000 range. One febrile neutropenic episode with undocumented infection was treated with antibiotics and two episodes of gross hematuria in presence of thrombocytopenia required platelet and red cell transfusions. (no Refs)

66. DOXORUBICIN, MITOMYCIN-C AND 5-FLUOROURACIL (DMF) IN THE TREATMENT OF HORMONAL REFRACTORY PROSTATE CANCER (MEETING ABSTRACT)

Logothetis CJ, Von Eschenbach AC, Ogden SL, Johnson DE, Samuels ML
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Fifty-six evaluable patients with advanced metastatic and hormonal refractory adenocarcinoma of the prostate were treated with a combination of Doxorubicin, Mitomycin-C and 5-Fluorouracil (DMF). The median age of the study population was 62 years, and all but seven patients received prior radiation therapy. Chemotherapy was infused intravenously. The dosage of each agent delivered was Doxorubicin 50 mg/m2 on day 1, Mitomycin-C 10 mg/m2 on day 2 and 5-Fluorouracil 750 mg/m2 on two consecutive days (D1 and D2) of each course. Each course was delivered at three-week intervals or upon marrow recovery. Strict objective criteria were used as response parameters. Measurable visceral metastases required a greater than 50% reduction in tumor volume, while patients with osseous metastases required blastic healing of prior lytic metastases and an improvement of the bone scan. Patients with elevated serum alkaline phosphatase or acid phosphatase required a greater than 50% reduction of their initial serum value. Patients with stable or progressive disease were considered non-responders. Nine of sixteen patients with visceral metastases achieved and objective response. Sixteen of the forty patients with osseous metastases have at present achieved objective responses. Patients responding to chemotherapy had an improved survival when compared to non-responding patients. The median survival of non-responding patients with osseous metastases was 26 weeks while the responding patients with osseous metastases had a median survival of 60 weeks. The median survival of non-responding patients in the total population was 26 weeks while the responding patients in the total population achieved a median survival of 48 weeks. (no Refs)

67. INTERMITTENT ARTERIAL INFUSION CHEMOTHERAPY FOR ADVANCED, HORMONALLY RESISTANT, RADIORECURRENT CARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

Scardino PT, Lehane DE
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Locally advanced, hormonally resistant carcinoma of the prostate recurrent after radiotherapy may produce symptoms of bladder outlet obstruction, uremia related to ureteral obstruction, hematuria pain, and recurrent urinary infections. We have treated 8 such patients with bilateral hypogastric arterial infusions of cisplatin monthly for 3 to 6 months. Intravenously administered cisplatin has demonstrable activity both as a single agent and in combination with other drugs in the treatment of disseminated prostatic cancer. The therapeutic index for other cancers (melanoma, carcomas, and head and neck tumors) appears to be increased when the drug is given by arterial infusion. Cisplatin binds promptly to plasma proteins, so that the half life of active drug is considerably shorter than that of metallic platinum. Arterial infusion should allow a high concentration of unbound active drug to reach the tumor. After percutaneous placement of bilateral hypogastric arterial catheters, vigorous hydration of the patient, the drug is administered at a dosage of 100 mg/m2 over one hour in a solution of saline at a final concentration of 1 mg/ml. This regimen avoids morbidity of long term indwelling catheters and has been associated with no increased toxicity from the drug itself. The therapeutic efficacy of this route of administration was apparent from occasional dramatic local responses while concurrent asymptomatic disseminated disease progressed. To date we have treated 8 patients followed 2-21 months with one complete response (for 21+ months), two partial response (15, 16 months), one stablization (6 months), one subjective response (4 months), one progression, and one patient who is too early for evaluation. (no Refs)

68. COMPARISON OF ESTRACYT (NSC-89199), CIS-DIAMMINEDICHLORO-PLATINUM (DDP) (II NSC-119875), AND ESTRACYT PLUS DDP IN PATIENTS WITH ADVANCED, HORMONE RESISTANT PREVIOUSLY IRRADIATED CARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

Soloway MS, Loening SA, Gibbons RR, Prout GR, Scott WW, Schmidt JD, Schlegel JU, Pierce JM, Beckley SA, Scardino PT, McLeod DG, McKiel CF, DeKernion JB, Pontes JE, Chu TM, Gaeta JF, Slack NH, Murphy GP
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

One hundred and twenty-three patients were randomized to either Estracyt or DDP alone or in combination for treatment of advanced prostate carcinoma in patients refractory to hormone therapy who had prior pelvic irradiation. Stabilization of the disease was more frequent in patients on the combination (38%) than in those on either agent alone (17% and 19%), as was improvement in subjective parameters. Nausea and vomiting and anorexia, to an acceptable degree, were common in all treatments. Myelosuppression of WBC and platelets was minor, although noted in more patients on the combination (25%). Renal toxicity accompanied treatment with DDP in some patients, particularly with the combination (25%). The combination of DDP and Estracyt are of added benefit when used as combination agents in these difficult patients. (no Refs)

69. HORMONAL TREATMENT AT TIME OF RADICAL RETROPUBIC PROSTATECTOMY FOR STAGE D1 PROSTATE CANCER: CRITICAL STRATIFICATION FACTOR IN TERMS OF PROGRESSION BUT NOT SURVIVAL (MEETING ABSTRACT)

Myers RP, Zincke H, Fleming TR, Furlow WL, Utz DC
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Seventy patients, followed 1 to 14 years, classified as Stage D1 prostate cancer based on radical prostatectomy, retrospectively fall into 2 basic groups: 32 patients who received endocrine therapy as an adjuvant to surgery, and 38 who did not. Rigorous statistical analysis of these two treatment arms failed to demonstrate any substantial imbalance relative to age, Gleason grade, pathologic stage, tumor volume, or seminal vesicle involvement. The average number of nodes per patient was significantly higher in the hormone group versus no hormone. Based on Kaplan-Meier projections, an estimated 80% not on hormone can be expected to progress within 5 years, whereas an estimated 80% of the hormone group can be expected not to progress in 5 years. The striking and significant disparity in progression is not seen for projected survivals which are almost identical. Seventeen of the 18 who progressed in the no hormone group were placed on hormone treatment at the time progression was substantitated, lending additional support to the concept that the timing of endocrine therapy in the face of metastatic disease does not impact on survival. (no Refs)

70. A RANDOMIZED DOUBLE BLIND CROSS-OVER TRIAL OF DIETHYLSTILBESTROL (DES) ESTRAMUSTINE PHOSPHATE (EMCYT) FOR STAGE I PROSTATIC CARCINOMA (MEETING ABSTRACT)

Benson RC, Gill GM, Cummings KB
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Two hundred and one patients with stage D prostatic cancer who had not previously been treated with hormones or cytotoxic chemotherapy were randomized to receive either DES 3 mg/day, or Emcyt 15 mg/kg/day. Patients took 5, 7 or 9 Emcyt capsules/day depending on their weight. Identical DES capsules were made in three strengths so that each patient got a total of 3 mg/day. At present, 153 patients (79 DES, 75 Emcyt) have had evaluable trials of therapy and been followed for 6-43 months. The groups were very well matched for every demographic factor. Objective assessment of disease extent and progression was made by scan, skeletal survey, chest x-ray and intravenous pyelogram. Subjective status was determined by pain and performance status according to the ECOG scale. The results in the 153 patients reported here are based on objective criteria. The study was analyzed using the Gehan modification of the generalized Wilcoxon test. Twenty-six of 79 DES patients and 18/74 Emcyt patients had demonstrable progression of disease at their first objective evaluation. The median duration to progression of the responders was 515 days for DES patients and 868 days for Emcyt. Thirty-six of the patients were orchiectomized prior to entry and were separately randomized. With both treatments the castrated group did more poorly than the noncastrated group. This may be due to the selection of poor risk patients for orchiectomy. Among patients entering the trial with the greatest restriction of activity due to their disease the Emcyt group responded more favorably. Also presented will be 1) An analysis of results in patients with cardiovascular disease, 2) Results in patients treated in the cross-over part of the trial, and 3) Comparative data about adverse effects. (no Refs)

71. LEUPROLIDE IN METASTATIC PROSTATIC CANCER (MEETING ABSTRACT)

Smith JA
Abbott Leuprolide Prostatic Cancer Study Group, Salt Lake City, UT
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Leuprolide is a new, potent analogue of gonadotropin releasing hormone which with chronic administration results in inhibition of pituitary release of LH and FSH (luteinizing and follicle stimulating hormones). Consequently testicular function is suppressed in men and circulating serum testosterone levels reduced. These observed endocrine effects of Leuprolide have predicated its use in prostatic cancer. One hundred and seventeen patients with metastatic prostatic cancer have been treated with Leuprolide in a multi-center Phase I-II study. Fifty-seven patients had received some form of prior endocrine treatment and 60 had no prior therapy. Patients were followed every two weeks and serial bone scans, x-rays and serum chemistries and hormones obtained according to protocol. Response criteria were those defined by the National Prostatic Cancer Project. Serum testosterone and dihydrotestosterone were suppressed to castrate levels in all patients within four weeks of the initiation of treatment. No adverse reactions or gynecomastia were encountered in any patients although most had hot flashes. Thirty previously untreated patients are evaluable to date and 70% have obtained a complete or partial objective response. An additional 27% have objectively stable disease and most patients had subjective improvement with resolution of bone pain or improvement in performance status. All responding patients are continuing on treatment. Only one patient in the previously untreated category had disease progression at week 10 of treatment. Thirty percent of patients who had relapsed on prior endocrine treatment had some subjective improvement with Leuprolide and 2 achieved an objective response. (no Refs)

72. LEUPROLIDE THERAPY OF ADVANCED PROSTATIC CANCER (MEETING ABSTRACT)

Glode LM
University of Colorado Health Sciences Center, Denver, CO, 80262
Proc Am Soc Clin Oncol; 1:C-426 1982

Leuprolide, an analogue of gonadotropin releasing hormone, has been administered to 118 patients with stage D prostatic carcinoma. Daily subcutaneous injection of 1, 10, or 20 mg resulted in the following responses among 88 evaluable patients who have completed 10 weeks of study: 31 post-orchiectomy, no objective response; 27 non-orchiectomy, 5 objective responses; and 30 non-treated, 22 objective responses. Side effects of therapy included hot flashes, decreased libido or impotence, and occasional minor irritation at the injection site. The initial rise in androgen levels was possibly associated with disease flare in 4 patients, however by week 4, androgens were at the castrate level. We conclude that leuprolide is an effective therapy for advanced prostatic carcinoma with potentially fewer side effects than estrogen administration. (no Refs)

73. THE EFFECT OF A POTENT LHRH ANALOGUE IN THE TREATMENT OF PROSTATIC CANCER (MEETING ABSTRACT)

Trachtenberg J, Tolis G

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Certain LHRH (luteinizing hormone-releasing hormone) analogues have been shown to markedly reduce gonadal steroidogenesis in a variety of animals. In order to assess to the effect of the chronic administration of a potent LHRH analogue, (D-Ser(But)6)LRH(1-9)-nonapeptide-ethylamide (Hoechst, Hoe766) on prostatic tissue, adult Wistar rats were administered either 1, 3 or 13 ug of Hoe766 sc QD. At 7, 21 and 35 days of treatment, groups of animals were sacrificed and certain serum endocrine and gravimetric parameters determined. By the end of the experimental period neither serum LH nor prolactin was altered from control but serum estradiol, testicular LH receptor content, testicular weight, seminal vesicle weight, and prostate weight were markedly decreased from control; serum androgens were reduced to the castrate level. Hoe766 was also administered to 6 adult males with previously untreated metastatic prostatic cancer. Fifty ug of Hoe766 was administered sc QD or 500 ug intranasally QD for periods from 3 to 6 months. By 3 months of treatment serum prolactin and LH had not changed, but serum androgens and estradiol had declined to the castrate level and LH response to LHRH administration, serum acid phosphatase, and prostatic tumor volume as measured by pelvic ultrasound and bone scan were all markedly reduced. Hoe766 reduces serum androgens to the castrate level in both the rat and man, probably by acting at two sites, namely the pituitary (as evidenced by decreased LH response to LHRH administration) and the testis (as evidenced by decreased testicular LH receptor content). (no Refs)

74. USE OF STILPHOSTEROL IN METASTATIC CARCINOMA OF THE PROSTATE (MEETING ABSTRACT)

Cerny JC, Klugo RC, Jakubowski E, Farah RN

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

One hundred post-castration patients with Stage D-2 carcinoma of the prostate and severe osseous pain received intravenous stilphosterol (diethylstilbesterol diphosphate), 1 g IV daily, for 5 to 10 days, for palliation of symptoms. Seventeen of the patients had major involvement of the spine with manifestations of cord compression and neurologic deficit. Fifty-eight percent of patients noted subjected major relief or pain, increased ambulation and improved appetite, while 9 of the 17 with cord compression had objective neurologic improvement. Patients who obtained either pain relief or neurologic improvement did not demonstrate reduced acid phosphatase levels or improvement in the bone scan. Average duration of improvement was 3.25 months. It is concluded that stilphosterol gave significant subjective palliation to more than half the patients studied, objective reversible of symptoms of cord compression in 9 others, and was not attended by major complications or side effects of chemotherapy. (no Refs)

75. LYMPH NODE METASTASES IN ADENOCARCINOMA OF THE PROSTATE: RESPONSE TO ENDOCRINE THERAPY (MEETING ABSTRACT)

von Eschenbach AC, Orovan WL, Zimmerman SO

No affiliation given

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Optimal therapy has not been determined thus far for patients with adenocarcinoma of the prostate who have only lymph node metastases. The results of surgical lymphadenectomy and extended field irradiation suggest that systemic therapy is required. Fifty-seven patients ranging in age from 47 to 78 years were determined clinically to have lymph node metastases exclusively. In 34 patients only the pelvic nodes were involved (D1), while in 23 patients extrapelvic nodes were positive (D2). All patients received endocrine therapy as primary treatment of their metastatic disease. Fifty-one patients were treated with the combination of orchiectomy and diethylstilbestrol, while 6 patients received only estrogens. Follow-up ranged from 6 to 135 months. At the time of last follow-up, 31 of 57 patients were alive and free of disease, while 6 patients are alive with tumor. Only 12 patients have died as a result of cancer. The projected 5-year survival for this group is 61% with a median survival of 6.4 years. Endocrine therapy is an appropriate method of treatment for patients with nodal metastases from prostate cancer in an effort to achieve long-term cancer free survival. (no Refs)

76. TRANSPHENOIDAL HYPOPHYSECTOMY FOR METASTATIC PROSTATIC CANCER (MEETING ABSTRACT)

Smith JA, Eyre HJ, Roberts TS, Middleton RG

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The role of hypophysectomy in the management of patients with metastatic prostatic cancer remains uncertain. Published series have reported subjective responses in 30-70% and objective evidence of tumor regression in up to 50%. However, there have been few recent reports concerning the efficacy of the procedure in prostatic cancer patients with a critical analysis of other factors which may account for apparent patient responses. Between 1977 and 1980 15 patients (mean age 62 yrs) underwent transphenoidal hypophysectomy (TSH) for prostatic cancer. All patients had relapsed after prior endocrine therapy and had progressive disease with diffuse bone pain. After TSH 7 patients (47%) had subjective improvement in pain or performance status lasting from 2 to 16 months but there was no apparent objective response in any patient. In fact some patients with a good subjective response had simultaneous clear objective evidence of disease progression. Survival after TSH range from 1 1/2 to 38 months and varied from a mean of 11 months in subjective responders to 5 months in nonresponders. One patient is still alive with progressive disease 27 months post-TSH. There was no apparent relation between the duration of the initial endocrine remission and subsequent response to TSH although the average interval from disease diagnosis to TSH was greater in responders (57 months) than non-responders (32 months). The mechanism by which TSH may influence the course of prostatic cancer patients in relapse after previous hormonal treatment is uncertain. (no Refs)

77. THE NATIONAL SURVEY OF PROSTATE CANCER IN THE UNTED STATES BY THE AMERICAN COLLEGE OF SURGEONS.

Murphy GP, Natarajan N, Pontes JE, Schmitz RL, Smart CR, Schmidt JD, Mettlin C
Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
J Urol; 127(5):928-934 1982

Data from the 1980 long-term and short-term surveys of the American College of Surgeons Commission on Cancer were examined to identify recent trends in the management of prostate cancer. The clinical stage distribution of patients demonstrates that higher proportions of patients were diagnosed as having occult or incidental and advanced stage D disease in the 1979 study as opposed to the 1974 series. In both periods black patients were diagnosed less often as having localized stage cancer and were observed more often to have advanced diseases. Transurethral resection and rectal examination were reported as the most common means of diagnosing prostate cancers. In both series alkaline and serum acid phosphatase studies were performed on the majority of patients, although the use was greater in the 1979 series. The use of bone scans increased nearly three-fold from 1974 to 1979. In the long-term survey (1974 and earlier) hormone therapy was the treatment used most often, either alone or in combination with surgery or radiation. Obviously, this treatment was used in many patients with metastatic disease. In the short-term survey (1979 and earlier) a larger proportion of patients with each stage of disease underwent transurethral resection only and a smaller proportion was observed to receive hormonal therapy. The use of radiation therapy appeared to have increased, particularly for Stages B and C disease in the 1979 series. At 5 years from initial diagnosis 77.7% of patients with clinical Stage A disease survived compared to 23% with clinical Stage D cancer. Throughout the study black patients had a poorer survival rate than white patients. During the study interval (1974 to 1979) the disease was staged clinically and graded histologically by various systems in most patients. The near complete results described in 1980 suggest an excellent geographic application of these important factors in patient management. Over-all, these results suggest changing patterns of care for prostatic cancer in the patients observed from 1974 to 1979. (Author abstract) (33 Refs)

78. THE CAUSE OF DEATH IN PATIENTS WITH PROSTATE CANCER (MEETING ABSTRACT)

Guinan P, Totonchi E, Sadoughi N, Sharifi R, Bush I, Shaw M
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Since prostate cancer occurs in older men who often-times have significant concurrent illnesses some physicians have assumed that prostate cancer is a relatively benign malignancy that need not be discovered and if diagnosed is best left untreated. In an effort to confirm or deny this impression one hundred consecutive patients who died and who also had a histologic diagnose of prostate cancer were evaluated. Medical records and autopsy reports were reviewed to ascertain the direct cause of death. Twenty percent of patients had autopsies. The mean age of these one hundred patients was 73.9 years. In 57 patients the direct cause of death was prostate cancer and in 43 patients prostate cancer was not the direct cause of death. The causes of death in the 43 patients dying of other causes were respiratory (16), cardiac (11), other malignancy (6), vascular (4), central nervous system (3) and other (3). The mean age of the patients dying because of prostate cancer was 72.8 years and the mean age of the patient dying of other causes 75.3 years. (no Refs)

79. WHAT MEN KNOW ABOUT PROSTATE CANCER (MEETING ABSTRACT)

Urich VC, Murphy GP, Cummings KM, Pontes JE, Mettlin C
Roswell Park Memorial Institute, Buffalo, NY
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The purpose of this study was to assess the knowledge level and beliefs of healthy men regarding prostate cancer, prostate cancer detection method, and prostate cancer therapy. The study population consisted of 165 adult males aged 19 to 84 from Buffalo, New York and Flint, Michigan. Data were collected by a self-administered questionnaire. The results show that most respondents (88%) were unaware of the annual incidence of prostate cancer, most respondents (91%) were unaware that blacks are more likely to get prostate cancer than whites, and most (93%) were unaware that prostate cancer is asymptomatic in its early stages. Fifty-four percent of respondents were not aware of any signs and symptoms of prostate cancer and only 21% of respondents indicated that they had every talked with a physician about prostate cancer or other diseases of the prostate. Thirty-three percent of respondents reported that a rectal exam is a procedure that a doctor can do to check for prostate cancer. Among men over age 40, only 36% reported having had a rectal examination in the past year. Seventy-nine percent of respondents indicated that they were not aware of any treatments for prostate cancer. The findings from this study identify gaps in the public's knowledge about prostate cancer and suggest the need for increased public education directed toward symptom recognition and screening among older men. (no Refs)

80. ACID PHOSPHATASE - IT'S INFLUENCE ON PELVIC NODE DISSECTION (MEETING ABSTRACT)

Whitesel JA, Donohue RE, Mani JH, Fauver HE, Augspurger RR, Biber RJ, Scanavino DJ, Pfister RR
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The Denver experience with locally confined carcinoma of the prostate with staging pelvic lymphadenectomy and various attempts at curative therapy, has added to our knowledge of the natural history of this disease. It has also revealed the significance of other findings, such as the elevated serum acid phosphatase. Three hundred and forty-three patients have undergone pelvic lymph node dissections. Preoperatively, 25 were found to have a persistently elevated serum acid phosphatase. Fifteen of these had metastatic disease to the pelvic lymph nodes. Twelve (1 died and 2 lost) were followed for a minimum of 2 years an 10 developed bone metastasis. Six of the 10 (2 lost, 1 died, 1 recently operated) with negative pelvic nodes were followed for a minimum of 2 years and 5 developed bone metastasis. Six patients were found to have an initial elevation of their serum acid phosphatase that returned to normal on repeat exam. One of the 6 had positive lymph nodes. Follow up evaluation, to date, has not revealed bone metastasis in any of these patients. The 318 patients with normal acid phosphatase revealed 70 with positive pelvic lymph nodes. Metastatic carcinoma of the prostate has not been cured by present modes of therapy. Therefore, the indication of this phenomenon must be identified prior to final dispo-

sition for each patient. Persistently elevated acid phosphatase indicates metastatic carcinoma of the prostate and contraindicates pelvic lymph node dissection and treatment methods directed at cure. (no Refs)

81. ENZYMATIC PROFILES IN PROSTATIC CARCINOMA (MEETING ABSTRACT)

Brendler CB, Isaacs JT, Linz JK, Walsh PC
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

In determining predictive indices that might discriminate between androgen sensitive and insensitive prostatic tumors, it seems logical to study various biochemical events that are known to be under androgenic control in the normal non-cancerous prostate. As a practical example of this rationale, a relative enzymatic index (REI) has been developed for the Dunning rat prostatic adenocarcinoma that permits the clear distinction between histologically similar hormone sensitive and insensitive tumors with no apparent overlap of the REI values. Using similar methods, we are attempting to develop an REI that might be used to predict the hormonal responsiveness of human prostatic carcinoma. Initially, fresh prostatic tissue obtained from either benign or malignant prostatectomy specimens has been used to standardize all assays. Samples of these specimens also have been frozen in liquid nitrogen and subsequently have been determined to be stable for assay purposes. Substrate concentrations have been chosen in linear ranges and appropriate kinetic methods have been used to assure the most optimal conditions for each assay. Next, microassays have been developed to minimize the amount of tissue required. Currently, we are able to determine the activities of six enzymes thought to be under androgenic control using a total of 20 mg of tissue. These enzymes are: 1) 5 alpha-reductase; 2) 3 alpha (beta)-hydroxysteroid oxidoreductase; 3) 17 beta-hydroxysteroid oxidoreductase; 4) acid phosphatase; 5) alkaline phosphatase; and 6) lactic dehydrogenase. (no Refs)

82. CLINICAL USEFULNESS OF THE CREATINE KINASE BB ISOENZYME IN PROSTATIC CANCER (MEETING ABSTRACT)

Fritsche HA, Von Eschenbach A, Wertlake SE, Geltner AM
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The creatine kinase BB isoenzyme (CK-BB) was evaluated for use as a tumor marker in patients with prostatic cancer. A radioimmunoassay procedure was used to determine the level of CK-BB in the circulation of these patients. A standard electrophoretic method was used to confirm the presence of the BB isoenzyme for those samples in which the radioimmunoassay procedure gave an elevated value. Most of the cancer patients had stage C or D adenocarcinoma of the prostate. Approximately one-half of the patients were undergoing therapy when they were entered into the study and the remainder of the patients were either in remission or had not yet received therapy for recurrence of their disease. One hundred and seventy serum samples were obtained from 33 patients during the follow-up period, and these were assayed for both CK-BB and prostatic acid phosphatase (PACP). In 16 of 33 patients, both the CK-BB and PACP values reflected progressive disease or response of the patient to therapy in a parallel manner. In seven patients who showed no clinical evidence of disease, serial values for both the CK-BB and PACP remained constant within normal limits. Serial CK-BB values indicated disease recurrence in four of 33 patients in which PACP values were normal and serial PACP values indicated disease recurrence in six of 33 patients in which the CK-BB values remained normal. (no Refs)

83. CLINICAL USEFULNESS OF HISTOCHEMICAL ANDROGEN BINDING SITE DETERMINATION IN PROSTATIC ADENOCARCINOMA (MEETING ABSTRACT)

Macchia RJ, Pertschuk LP
New York Prostatic Binding Site Group, Brooklyn, NY
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

A test has been devised by Pertschuk which semi-quantitatively measures androgen binding sites in prostatic tissue. This paper is a report on the results of a clinical trial conducted to determine the usefulness of this test in predicting which patients with prostatic adenocarcinoma will respond to hormonal manipulation. The test itself is a histochemical one in which frozen sections (4 microns thick) of prostatic tissue are incubated with a solution of fluorescein tagged androgen for 2 hours. A semi-quantitative estimate of binding site density is then made using an ultraviolet microscope. When sufficient tissue was available quantitative biochemical determination of androgen receptors was also undertaken. The clinical trial was designed as follows. All patients with prostatic adenocarcinoma from whom tissue was removed were enrolled in the study. All pertinent clinical data was entered into a computerized data retrieval system. No clinician was aware of the results of the androgen binding site assay. The assayist was not aware of any clinical data. Determination of objective response to therapy was made by application of the published criteria of the National Prostate Cancer Project. To date, 270 patients have been entered into the study. Of these, 40 with previously untreated stage C or D disease have been followed for 2 or more years. A statistically significant correlation was demonstrated between the histochemical test and response to therapy which exceeded that of the biochemical test. (no Refs)

84. PLASMA ANDROGEN LEVELS AFTER SUBCAPSULAR ORCHIECTOMY OR ESTROGEN TREATMENT FOR PROSTATIC CARCINOMA.

Vermeulen A, Schelfhout W, De Sy W
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Prostate; 3(2):115-121 1982

Following bilateral subcapsular orchiectomy for advanced prostatic carcinoma (APC) in 40 patients, the plasma levels of testosterone were within the range found in postmenopausal women and remained at these levels for one year. Plasma androstenedione (A) levels were 75-80% of the levels in normal men and also remained constant over one yr. Dehydroepiandrosterone (D) and dehydroepiandrosterone sulfate (DS) levels remained at essentially the same as those of normal men. In another group of 35 patients with APC treated only with polyestradiol phosphate (80 mg/mo im), levels of D after several months were the same as controls. The levels of A were about 70% of controls while levels of DS were significantly lower. The results indicate that during the year following subcapsular orchiectomy there is no reactivation of any remaining Leydig cells and no compensatory adrenal androgen secretion, nor is there an increased adrenal androgen secretion during estrogen treatment. There was no evidence in either

group of patients for increased androgen levels at the time of recurrence of the carcinoma. (21 Refs)

85. PURIFICATION AND CHARACTERIZATION OF PCA-1: A POSSIBLE MARKER FOR PROSTATIC CANCER (MEETING ABSTRACT)

Guevara JG, Chiocco EA, Von Eschenbach AC, Edwards JJ, Anderson NG
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Using two dimensional gel electrophoresis, a unique protein spot, designated PCA-1, has been identified in the urine of patients with adenocarcinoma of the prostate. This protein spot has not been found in urine samples from age-matched controls, patients with benign prostatic hyperplasia or other malignancies. This protein has been shown to be of prostatic origin and is being studied as a possible marker for prostatic cancer. The PCA-1 spot has been extracted from the two dimensional gels and three distinct proteins have been separated on a hydroxyl apatite column. The amino acid composition of these three proteins has been determined. Although these proteins have the same isoelectric point (pI) and similar molecular weights of 41,788, 42,875, and 43,393, their amino acid compositions are distinct. These proteins will be utilized in the development of immunoassays in order to facilitate the systemic evaluation of PCA-1 as a marker for prostatic cancer. (no Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

86. THE PROGNOSTIC SIGNIFICANCE OF UNDIFFERENTIATED (UNDIF) HISTOLOGY IN SEMINOMA (MEETING ABSTRACT)

Cockburn A, Vugrin D, Hajdu S, Mackey R, Batata M, Whitmore W
Memorial Sloan-Kettering Cancer Center, New York, NY, 10021
Proc Am Soc Clin Oncol; 1:C-442 1982

The presence of undif (anaplastic) histology in any tumor is usually associated with a more aggressive clinical course and shortened survival. The consequence of differentiation on survival is analyzed in 200 patients with seminoma. Undif seminoma is characterized by cellular irregularity, nuclear pleomorphism, and increased mitotic activity which was present in 33/200 (16%) cases. Treatment in all groups consisted of radical orchiectomy followed by irradiation (RT) of the ipsilateral pelvic and retroperitoneal lymph nodes (RPLN) in stage I; pelvic, RPLN and mediastinum in stage II; and RT plus chemotherapy in stage III. The overall 5 year disease free survival including salvage from relapse was as follows: undif-Stage I 88%(14/16), Stage II 58%(7/12), Stage III 60%(3/5); Dif-Stage I 86%(104/120), Stage II 61%(19/31), Stage III 62%(5/8). We conclude that undif histology in seminoma is not associated with a worse prognosis than the dif subtype and does not warrant different therapy. Likewise, histologic features such as tumor necrosis, lymphocytic infiltration or Leydig cell hyperplasia do not influence the clinical course of this tumor. Prognosis and survival are significantly influenced by the presence and bulk of metastases at the time of diagnosis. (no Refs)

87. PROGNOSTIC SIGNIFICANCE OF CHORIOCARCINOMA ELEMENTS IN TESTIS CANCER (MEETING ABSTRACT)

Whitmore WF, Vugrin D, Golbey R
Memorial Sloan-Kettering Cancer Center, New York, NY, 10021
Proc Am Soc Clin Oncol; 1:C-446 1982

Pure choriocarcinoma in males has a poor prognosis. Significance of presence or absence of choriocarcinoma elements on survival in testis cancer containing other germ cell elements was evaluated in 118 patients with stage III or bulky stage II disease in whom VAB 4 (vinblastine, actinomycin D, Bleomycins, cisplatinum, cyclophosphamide, chorambucil, adriamycin), VAB 5 (vinblastine, actinomycin D, bleomycin, cis-platinum, cyclophosphamide), or VAB 6 (vinblastine, actinomycin D, bleomycin, cis-platinum, cyclophosphamide) was first chemotherapy. All patients first received induction chemotherapy with attempted resection of residual deposits after the 3rd induction. Choriocarcinoma elements were present in 28(24%) and absent in 88. Metastatic disease was minimal in 10(36%) with and in 21(24%) without, and advanced in 18(64%) with and 67(76%) without choriocarcinoma elements. Relapse free CR (complete response) has been maintained in 21/21 with and 66/68 without chorioca elements. This was in contrast to pure choriocarcinoma where 30/32 patients were dead within median of 4 months despite various forms of chemotherapy. We conclude that pure choriocarcinoma implies poor prognosis while choriocarcinoma mixed with other germ cell elements is not associated with decreased responses or CRs and survival. (no Refs)

88. PROSPECTIVE RANDOMIZED TRIAL OF CYTOREDUCTIVE SURGERY FOLLOWED BY CHEMOTHERAPY VERSUS CHEMOTHERAPY ALONE IN BULKY DISSEMINATED TESTICULAR CANCER (MEETING ABSTRACT)

Javadpour N, Ozols R, Young RC
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Cytoreductive surgery prior to intensive chemotherapy has been advocated in a number of bulky disseminated cancers of different cell types in several uncontrolled studies. We have randomized 39 patients with disseminated bulky stage III testicular cancer to cytoreductive surgery followed by chemotherapy (group I) or chemotherapy alone (group II). None of these patients had any prior therapy. Cytoreductive surgery consisted of removal of bulk disease from the abdomen and/or thorax. Patients randomized to cytoreductive surgery had 70-90% of the tumor resected prior to chemotherapy. Chemotherapy consisted of 3 intensive 21-day induction courses with Cyclophosphamide Vinblastine, Actinomycin D, Cis-platinum and Bleomycin. In group I, the complete remission (CR) rate was 8/18, partial remission (PR) rate was 7/18, and no response (NR) was 3/18. In group II CR rate was 7/19, PR rate 8/19 and NR of 4/19. Life table analysis failed to disclose any statistically significant differences in survival between these two groups. This randomized study demonstrates that while intensive cytoreductive surgery and chemotherapy is feasible in this group of poor prognostic young patients, there is no improvement in response and/or survival by the initial cytoreductive surgery when compared to intensive chemotherapy alone as initial treatment. (no Refs)

89. VAB-6 COMBINATION CHEMOTHERAPY WITHOUT MAINTENANCE: PROGRESS IN CHEMOTHERAPY OF DISSEMINATED CANCER OF THE TESTIS (MEETING ABSTRACT)

Vugrin D, Whitmore WF, Herr H, Sogani P, Golbey R
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Because of the excellent results of the VAB-6 regimen and the lack of an increased relapse rate with reduction of maintenance. VAB-6 with no maintenance was evaluated in 36 patients with stage III or bulky stage II testis germ cell tumor. VAB-6 starts with 3 inductions at 3-4 week intervals. Induction is: Day 1, cyclophosphamide 600 mg/m2 IV, bleomycin 30 mg IV, actinomycin D 1 mg/m2 IV, vinblastine 4 mg/m2 IV push; Days 1-3, bleomycin 20 mg/m(2)/day by continuous infusion; Day 4, cis platinum 120 mg/m2 IV. One month after the third induction any residual disease is resected. If the resected specimen contains malignant tissue, and additional two inductions (total 5) are given (1 without BLEO). Complete responders (CR) to the first 3 inductions and those with resected mature teratoma receive a fourth induction. CR was achieved in 30/34 (88%) evaluable patients (18 chemo alone, 12 chemo + surgery) and 28 (82%) remain alive NED (no evidence of disease). CR with chemotherapy alone occurred in 11/13 with minimal disease and 7/21 with advanced disease, and in 5/12 with and 13/19 without teratomatous elements in the primary tumor. Patients with advanced metastatic disease or with teratoma in the primary tumor benefited most from the combined approach. Pure seminoma was the most and pure choriocarcinoma the least responsive to this chemotherapy. Six patients received antibiotic for fever during myelosuppression. Retrospectively, the VAB-6 protocols with and without maintenance had identical results at comparable times. (no Refs)

90. TREATMENT OF ADVANCED SEMINOMA WITH CISPLATIN, VINBLASTINE, BLEOMYCIN +/- ADRIAMYCIN (PVB +/- A) (MEETING ABSTRACT)

Williams SD, VanOosterom AT, Einhorn LH, Cortes-Funes H, Donohue JP
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Seminoma in early stages is a highly radio-curable disease. The results, however, for advanced disease are far less favorable. Seminoma is responsive to chemotherapy but the optimum treatment regimen is controversial. At our 5 hospitals, we had the opportunity to treat 54 advanced seminoma patients with PVB +/- A. Thirty-five had received prior radiation (RT), AFP was normal in all cases, but HCG was minimally elevated in nine. Pathologic material was available from the primary tumor in all patients (classic or anaplastic seminoma exclusively) but metastatic sites were usually not biopsied. The response rate was 94% and 37 (69%) achieved complete remission (CR), 30 of whom have been followed for one year and 23 for over 2 years. Only 4 have relapsed and one of these re-entered CR with salvage therapy. Another died off therapy of unrelated causes. Eighteen out of 19 with no prior RT achieved CR. Toxicity (myelosuppression and ileus) was considerable, particularly in irradiated patients, in spite of an initial lowered vinblastine dose. PVB +/- A is effective treatment for advanced seminoma and yields responses comparable to that seen in non-seminomatous tumors. In disseminated disease, chemotherapy should be the initial mode of treatment in lieu of radiotherapy or surgery, which remain possibilities in treatment of residual localized disease. (no Refs)

91. POOR PROGNOSIS NON-SEMINOMATOUS TESTICULAR CANCER (NSTC): AN EFFECTIVE 'HIGH-DOSE' CIS-PLATINUM (P) REGIMEN WITHOUT INCREASED RENAL TOXICITY (MEETING ABSTRACT)

Ozols RF, Javadpour N, Messerschmidt GL, Young RC
National Cancer Institute, Bethesda, MD, 20205
Proc Am Soc Clin Oncol; 1:C-438 1982

While standard dose P regimens (20mg/m2 IV x 5 or 120 mg/m2 IV x 1) have been very effective (85-90% complete remissions [CR]) in NSTC patients (pts) with a minimal tumor volume, they have produced CR's in only 30-50% pts with poor prognosis bulky disseminated disease. We have treated 10 NSTC pts who had multiple poor prognostic features with 3 21 day (d) cycles of PVeBV: P[40mg/m2 IV d 1-5], vinblastine (Ve)[0.2mg/kg IV d 1], bleomycin (B) [30 units IV q wk] and VP-16-213 (V) [100 mg/m2 IV d 1-5]. P was administered in 250 ml of 3% saline with continuous hydration (250 ml/hr normal saline) for 5d at twice the dose used in previous studies on the basis of experimental studies by Litterest which have demonstrated that hypertonic saline can decrease the renal toxicity of P. All 6 previously untreated pts achieved a CR: 4 pts with 3 cycles of PVeBV and 2 pts following an additional cycle of P+V [40mg/m2 + 200mg/m2 IV d 1-5]followed by autologous bone marrow infusion. There have been no relapses with a follow-up from 4-12+months. All 4 relapsed pts responded [2 CR, 2 PR]. There were no deaths associated with PVeBV; however, myelosuppression was severe. There has been no renal toxicity (other than hypomagnesemia) observed with 35 cycles of high dose P therapy even when used in pts with tumor related obstructive uropathy. (1 Ref)

92. TESTICULAR CARCINOMA: LACK OF ENHANCEMENT OF CISPLATINUM NEPHROTOXICITY BY AMINOGLYCOSIDES (MEETING ABSTRACT)

Kaminski MS, Hannigan JF, Torti FM
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Proc Am Soc Clin Oncol; 1:C-433 1982

Thirty-five patients were treated at Stanford for testicular carcinoma with a combination regimen of cisplatinum (P), vinblastine, and bleomycin (PVB). Sixteen patients had at least one episode of fever and neutropenia and received an aminoglycoside (A), for a mean of 4.7 days, range 1 to 14. (P) was delivered by continuous infusion over 24 hours at 31 pts, over 5 days in 4. For the (A) group vs the no (A) group, there was no difference in either the mean pretreatment serum creatinine (SC 0.96 vs 0.95) or creatinine clearance (CC 130 vs 111). Initial functional abnormalities on IVP were noted in 2 in each group. No SC greater than 2.2 occurred in either group. No differences in SC have appeared after a median follow-up of 8 months. A subset of 28 patients who had received 4 or more PVB cycles and had SC and CC measured prior to cycles 1 and 4 was evaluated for the effect of (A). Contrary to reports in the literature, the addition of (A) during treatment with PVB did not enhance nephrotoxicity of (P), either short or long term. Given this patient population and regimen, (A) should not be withheld when indicated. (no Refs)

93. THE MANAGEMENT OF THE OBSTRUCTED KIDNEY IN ADVANCED NON-SEMINOMATOUS TESTIS TUMOR (NSTT) PATIENTS TREATED WITH CIS-PLATINUM (DDP)-COMBINATION CHEMOTHERAPY (MEETING ABSTRACT)

Biber RJ, Wettlaufer JN
No affiliation given
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The most effective single drug in the therapy of metastatic NSTT is DDP. Because DDP is potentially nephrotoxic, many feel that it should be eliminated or reduced in the obstructed or azotemic patient. Twelve patients, 1977-1980, presented with massive retroperitoneal NSTT and unilateral or bilateral hydronephrosis. Seven were stage B3 and 5 were advanced stage C. A total of 14 renal units were involved. All patients were treated with full dose DDP, Bleomycin, and Vincristine prior to retroperitoneal lymph node dissection (RLND). Four to 11 weekly courses were given with a minimum of 10 days DDP at 20mg/m(2)/day and 3 days at 1mg/kg/day. All patients were vigorously hydrated. In one instance of severe azotemia secondary to bilateral hydronephrosis, ureteral stents were placed just prior to institution of chemotherapy. Ten of 14 renal units showed complete resolution of hydronephrosis. Four of 14 showed partial resolution. In no instance was gross renal function impaired. In the 3 patients with varying degrees of azotemia prior to chemotherapy, renal function returned to normal. Ten patients underwent subsequent RLND with concommitant nephrectomy of previously hydronephrotic kidney in 5. Only 1 patient (clinically normal function) showed histologic evidence of DDP toxicity with mild Acute Tubular Necrosis. Patients with unilateral or bilateral hydronephrosis, with or without azotemia from metastatic NSTT, should be treated with full dose DDP-combination chemotherapy with pretreatment proximal drainage in selected cases. (no Refs)

94. HYPOMAGNESEMIA AND RENAL DYSFUNCTION DURING CISPLATIN-BASED CHEMOTHERAPY OF GERM CELL CANCER (MEETING ABSTRACT)

Vogelzang NJ, Kennedy BJ
University of Minnesota, Minneapolis, MN, 55455
Proc Am Soc Clin Oncol; 1:C-456 1982

The spectrum of cisplatin-induced nephrotoxicity includes hypomagnesemia (hMg.) The frequency and severity of hMg occurring during germ cell cancer chemotherapy has not been well-defined. Thrity patients (pts) undergoing induction chemotherapy with vinblastine, bleomycin and cisplatin (20 mg/M2 IV days 1-5) were observed for the occurrence of hMg (serum Mg less than or equal to 1.3 mEq/L). All pts received 4-6 courses of therapy at 21-day intervals. An infusion of D5/.45NS was given to maintain the urine output greater than 100 cc/hr during each treatment. Mannitol, furosemide and aminoglycoside therapy were not permitted. The median number of Mg levels per pt was 6 (range 2-37). Twenty-six of the 30 pts (87%) became hypomagnesemic despite vigorous replacement therapy. When inspected by linear regression, serum Mg and creatinine clearance (CrCl) fell with successive courses of therapy. There was a linear correlation between the decrements in serum Mg and CrCl. Among the 26 hMg pts, the median time to the onset of hMg was 63 days and the median Mg nadir was 1.1 mEq/L. Hypokalemia and hypocalcemia were not observed, but 4 pts had evidence of mild renal tubular acidosis. Twenty four-hour urinary Mg excretion in 5 hMg pts was inappropriately high. Two months after the cessation of cisplatin, 4 of 10 evaluable pts remained hypomagnesemic. (no Refs)

95. GONADAL FUNCTION AFTER PLATINUM, VINBLASTINE, BLEOMYCIN (PVB) +/- ADRIAMYCIN (A) IN TESTICULAR CANCER (MEETING ABSTRACT)

Drasga RE, Williams SD, Stevens EE, Patel DN, Einhorn LH, Rohn RJ
Indiana University Hospital, Indianapolis, IN, 46223
Proc Am Soc Clin Oncol; 1:C-407 1982

Patients with disseminated testicular cancer and no prior retroperitoneal lymphadenectomy treated with PVB +/- A were evaluated with sperm counts, follicle-stimulating hormone (FSH), luteinizing hormone (LH), and testosterone. Since 1979, 37 men have been prospectively studied. Median followup is 18 months. Before treatment, 20 of 27 were oligospermic and only 3 could meet requirements for sperm banking. FSH was elevated in 1 of 37. After two months, 17 of 18 were aspermic, 18 (100%) were oligospermic, and FSH was elevated in 16 of 29. After 1 year, 7 of 8 remain aspermic and 12 of 13 have elevated FSH. Also, 19 patients treated between 1975-1979 were retrospectively evaluated. Median followup from the start of therapy was 36 months. Normal sperm counts were found in 8 of 16. FSH was normal in 10 of 18. LH was normal in 12 of 18. Testosterone was normal in 14 of 18. Five of 17 have impregnated their wives resulting in 3 healthy babies, 1 ongoing pregnancy, and 1 spontaneous abortion. These results show that: (1) Significant impairment of spermatogenesis exists before therapy precluding the possibility of sperm banking in most patients, (2) Cisplatin-based combination chemotherapy has substantial effects on gonadal function, and (3) A high degree of recovery of spermatogenesis occurs sometime after 2 to 3 years from the initiation of treatment. (no Refs)

96. GYNECOMASTIA AFTER CYTOTOXIC THERAPY FOR METASTATIC TESTICULAR CANCER.

Turner AR, Morrish DW, Berry J, MacDonald RN
Cross Cancer Inst., 11560 University Ave., Edmonton, Alberta T6G 1Z2, Canada
Arch Intern Med; 142(5):896-897 1982

Four men with metastatic nonseminomatous testicular cancer, who had received combination chemotherapy, experienced transient gynecomastia. Serum hormone levels were measured during and after the resolution of the gynecomastia. These levels indicated toxic effects on Leydig's cells and germinal epithelium concurrent with raised serum estradiol levels in the absence of tumor. The gynecomastia may have been caused by Leydig's cell dysfunction or refeeding after substantial wt loss. This benign form of gynecomastia must be recognized to avoid unnecessary investigation and treatment. (Author abstract) (28 Refs)

97. TREATMENT OF ASPERMIA FOLLOWING RADICAL RETROPERITONEAL LYMPHADENECTOMY IN TESTICULAR TUMORS (MEETING ABSTRACT)

Ringert RH, Kropfl D, Plewa G, Behrendt H, Hartung R
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Retroperitoneal lymphadenectomy in patients presenting with non-seminomatous testicular tumors is followed by ejaculation disorders in up to 80% postoperatively. New pharmacologic data about imipramine action on the urethral sphincteric zone underlined the known ability of this drug to treat ejaculation disorders and encouraged its use. Mean age of 27 patients was 29 years. Treatment with 75 mg imipramine daily started

2-133 months after onset of ejaculation disorder. Lost of seminal emission was seen in 13 men, retrograde ejaculation 12 and partial retrograde ejaculation in another 2 men. Sixteen patients are controlled until now. Four out of 7 presenting with lost of seminal emission, 6 out of 7 showing retrograde ejaculation and both patients having partial retrograde ejaculation regained antegrade ejaculation. Although 12 out of 16 controlled patients regained antegrade ejaculation only 2 men showed normozoospermia. Volume of ejaculated spermatic fluid ranged between 3.2 and 0.9 ml. Side effects of imipramine treatment were frequently seen. Antegrade ejaculation was achieved after 48 hours of imipramine treatment in 11 of 12 patients. Dosage was lessened after 2 weeks to 50 mg imipramine. Long-term treatment with 25 mg imipramine daily was sufficient to maintain antegrade ejaculation, while 25 mg of imipramine every second day was followed by partial retrograde ejaculation. (no Refs)

98. SEMINOMA AND EPIDIDYMAL CYSTS IN A YOUNG MAN WITH KNOWN DIETHYLSTILBESTEROL EXPOSURE IN UTERO (MEETING ABSTRACT)

Conley GR, Sant GR, Mitcheson HD
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

A high incidence of male genital tract abnormalities occurs in males exposed to diethylstilbestrol (DES) in utero. Although female exposure to DES in utero has been linked to the development of adenosis and clear cell adenocarcinoma of the vagina, until now there has been no association between DES exposure and the development of male genital tract neoplasms. We report a seminoma developing together with ipsilateral epididymal cysts in a 26-year-old man with known DES exposure. His mother had taken DES antenatally from the first to the third trimester in amounts of up to 105 mg/day. Chromosome and sex chromati analysis were normal and tumor markers were negative. Both testes were fully descended and the left was huge. Orchiectomy showed anaplastic seminoma and 2 epididymal cysts lined by columnar cells without apparent secretory cells and spermatozoa absent from the contained fluid. These appearances have been described for epididymal cysts of DES exposed males. In view of the known carcinogenic potential of DES in females exposed in utero, it is likely a similar potential exists in males. DES causes a high incidence of undescended and/or hypoplastic testes in humans and in experimental animals and these testes are known to be at increased risk for the development of seminoma. There may well be a causal relationship between DES exposure and development of seminoma. Although the DES-type epididymal cysts and seminoma may be coincidental in our patient, it gives rise to speculation as to the role of DES in testicular carcinogenesis. (no Refs)

99. VP16-213, CISPLATINUM, AND ADRIAMYCIN SALVAGE THERAPY OF REFRACTORY AND/OR RECURRENT NONSEMINOMATOUS GERM CELL NEOPLASMS.

Mortimer J, Bukowski RM, Montie J, Hewlett JS, Livingston RB
Dept. Hematology and Medical Oncology, Cleveland Clinic, 9500 Euclid Ave., Cleveland, OH, 44106
Cancer Chemother Pharmacol; 7(2/3):215-218 1982

Eleven patients (17-40 yr old) with nonseminomatous germ cell tumors that were unresponsive to conventional chemotherapy, or that had relapsed following adjuvant therapy or following conventional chemotherapy were treated with VP16-213 [90 mg/square meter (m2) iv on days 1-5], adriamycin (ADR; 50 mg/m2 iv day 1), and cis-platinum (DDP; 20 mg/m2 iv days 1-5). Courses were repeated every 4 wk if toxicity allowed. One complete response (CR) and 10 partial responses (PR) were observed. The projected median survival from beginning of salvage chemotherapy was 12.5 mo and from initial diagnosis, 23.5 mo. All three of the patients who had received prior adjuvant therapy for Stage II disease responded (1 CR and 2 PR). Of the eight patients treated for metastatic disease initially, one CR, five PR, and two nonresponders were seen with initial chemotherapy. With salvage chemotherapy, all eight patients demonstrated PR; one is still in therapy and four have developed progressive disease; Three of these patients had benign teratomas that were surgically excised; the patients were alive 15-28 mo after diagnosis. Toxicity of salvage chemotherapy was substantial, and included nausea and vomiting (all patients), alopecia (all), severe mucositis (5), and myelosuppression (all; life-threatening in 4). Four patients survived more than 18 mo. Use of VP16-213 in initial treatment regimens for germinal cell neoplasms is recommended. (8 Refs)

TUMORS OF THE PENIS AND SCROTUM

100. EPIDERMOID CARCINOMA OF THE PENIS.

Nelson RP, Derrick FC, Allen WR
Dept. Urology, Medical Univ. South Carolina, 171 Ashley Ave., Charleston, SC, 29403
Br J Urol; 54(2):172-175 1982

One hundred and twenty-two cases of penile carcinoma at the Medical University of South Carolina from 1945 to 1979 have been analyzed. The age and race distribution of these patients, initial clinical staging and surgical treatment have been recorded. In addition, clinical inguinal involvement, results of inguinal lymphadenectomy and survival data based on retrospective staging are listed. The role of adjunctive lymphadenectomy is discussed and the importance of pelvic lymphadenectomy in addition to inguinal node dissection is emphasized. A treatment plan is outlined for the management of penile carcinoma in order to increase survival without increasing patient morbidity. (Author abstract) (22 Refs)

101. ANGIOSARCOMA OF THE PENIS - INDOLENT VERSUS AGGRESSIVE COURSE (MEETING ABSTRACT)

Hampel N, Resnick MI, Persky L
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Soft tissue tumors of the penis, both benign and malignant, are extremely uncommon lesions. Little information is available about primary angiosarcomas of the penis. These tumors are characterized by a malignant histologic appearance but this does not by itself indicate the biologic aggressiveness of the tumor. The two contradictory clinical manifestations of penile angiosarcoma will be discussed and illustrated in the following two cases: Case 1: 51 year old presented with a painful 1 x 1 cm mass at the base of the penis that existed for 5 months. The lesion was completely excised from under Buck's fascia. Histologic examination revealed angiosarcoma. After 5 years follow-up without further treatment, there is no evidence of recurrence. Case 2: 54 year old presented with urethral obstruction

and a mass of the bulbous urethra. Biopsy revealed angiosarcoma. At abdominoperineal exploration the lesion was found to involve both corpora and extended into the prostate and the pelvic rim as well as lymph nodes. Total penectomy and prostatectomy were performed. The extension of the disease could not be controlled, patient condition deteriorated rapidly over several weeks and he expired. Most of the 33 previously reported cases of penile angiosarcoma had a benign course though this neoplasm is generally a very aggressive lesion in other locations. These cases were controlled by excision and had no recurrences. Only four patients died of the disease. All of them persued a rapid malignant course in spite extensive multimodal therapy. (no Refs)

102. WHEN TO USE THE CHEVASSU MANEUVER DURING SCROTAL EXPLORATION (MEETING ABSTRACT)

Goldstein M, Waterhouse K

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Malignancy is frequently considered in the differential diagnosis of intrascrotal masses. Because of the well-known hazards of transcrotal biopsy an inguinal approach is mandatory for exploration of suspicious masses. It has been widely accepted that the testicular tunics should not be opened during such exploration and that orchiectomy should be performed if benignity cannot be positively established by palpation. Unfortunately, Altaffer and Steele have shown that this approach leads to orchiectomy in up to 51% of explorations negative for malignancy. The most common diagnoses are hydrocele, epididymitis, torsion and benign testicular tumors. It is well known that malignant testicular tumors are rare in Blacks. In addition, the recent discovery of an increased incidence of carcinoma-in-situ of the testis after orchiopexy and in some infertile men has added a new dimension to this clinical dilemma. In 1906 Chevassu described a solution. The method consists of inguinal exploration, double occlusion of the cord with vascular clamps and isolation of the testis from the surgical field, prior to opening the tunics and possible biopsy of the testis. If one adds testicular hypothermia, double ligation of the gubernaculum, adhesive drapes and irrigation with distilled water to refine the technique, the principles of good cancer surgery are not violated. We have used this method during inguinal exploration of 5 patients with suspicious scrotal masses. Two patients had malignancies diagnosed by frozen section, necessitating radical orchiectomy. Three benign testes survived with no evidence of subsequent atrophy. Ischemic intervals varied from 5-30 minutes. Animal studies have indicated that the testis can survive a 30-minute ischemic insult with minimal damage. The Chevassu maneuver should be used when exploring scrotal masses of low malignant suspicion. (no Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

103. FILLING OF THE 'OBTURATOR' NODES IN PEDAL LYMPHANGIOGRAPHY: FACT OR FICTION (MEETING ABSTRACT)

Zoretic S, Wajsman Z, Beckley S, Pontes E

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The value of pedal lymphangiography as staging procedure for carcinoma of the prostate and bladder continues to be debated because of the fact that the 'obturator' lymph nodes are not visualized during this diagnostic technique. In a previous study, Merrin et al, has shown the presence of contrast material in the surgically removed obturator nodes. Twenty patients at Roswell Park Memorial Institute have undergone pedal lymphangiography followed by fine needle aspiration. Pelvic lymph node dissections were performed, and at the time pelvic x-rays were taken once the external iliac nodes had been surgically excised. This was followed by removal of the remaining lymph nodes in the obturator fossa after which another x-ray was obtained. In reviewing the radiographs, consistent filling of the obturator nodal chain was noted in all of our cases. In our experience we can accurately predict the location of the lymph nodes surrounding the obturator nerve prior to fine needle aspiration. Therefore, combining pedal lymphangiography with fine needle aspiration not only increases the yield of this procedure, but in many cases may alleviate the need for surgery as a means of accurate staging for prostate and bladder carcinoma. (no Refs)

104. SYNCHRONOUS TRANSITIONAL CELL CARCINOMA OF THE RENAL PELVIS AND RENAL CELL CARCINOMA IN A SINGLE KIDNEY (MEETING ABSTRACT)

Fraser LB, Morse FP, Mahoney EM, Schlesinger RM

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Certain urine borne carcinogens have been associated with transitional cell carcnoma, while the etiologic factors of renal cell carcinoma are poorly understood. Thus, this rare association may represent a chance occurrence. However, the existence of this association points out the necessity for a systematic evaluation of a patient presumed to have either of these lesions. The importance of urine cytology and retrograde pyelography in cases in which excretory urography fails to adequately visualize the upper tracts is stressed. Retrograde brushing techniques are also of benefit. Accurate diagnosis will result in appropriate therapy. When an obvious renal cell neoplasm is discovered in the evaluation of hematuria, one may usually assume that a radiolucent filling defect in the renal pelvis is due to blood clot. However, such a defect may, in fact, represent a synchronous transitional cell carcinoma of the renal pelvis. In this situation radical nephroureterectomy with removal of a cuff of bladder and periureteral lymphatics is indicated as opposed to nephrectomy alone. This is significant because of reports of up to 58% recurrence in the ureter after nephrectomy for renal pelvic tumors. Our review demonstrates that when the diagnosis of renal pelvic transitional cell tumor

is missed preoperatively, the surgical treatment may be less than optimal. (no Refs)

105. CLINICAL EVALUATION OF INTERFERON AGAINST ADVANCED UROLOGICAL CANCER (MEETING ABSTRACT)

Marumo K, Hagiwara M, Deguchi N, Jitsukawa S, Murai M, Nakazono M, Hata M, Tazaki H

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., may 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Six patients with hypernephroma with subsequent development of distant metastasis after having nephrectomy and one patient with adenocarcinoma of the urinary bladder accompanied by cutaneous and hepatic metastasis were treated with human lymphoblastoid interferon (HLBI) of 300 million units/day given intramuscularly. Two patients with advanced cancer of the prostate were treated with human fibroblast interferon (HFI), the dose ranging from 150 to 300 million units/day intravenously. In patients with hypernephroma, partial response as evidenced by more than 50% reduction in pulmonary lesion at 3 months was noted in one patient, stable disease for a period from 31 to 85 days by unremarkable changes on chest x-ray in 3 patients and progressive disease in 2 patients. Resolution of cutaneous lesion accompanied by disappearance of hyperbilirubinemia and reduction of serum CEA (carcinoembryonic antigen) level was noted in the patient with adenocarcinoma of the bladder. In patients with cancer of the prostate, improvement of bony lesion was noted by bone scanning in one patient and stable disease in the other. No serious adverse effect was noted. In order to determine the therapeutic dose of interferon, growth inhibition assay was undertaken, utilizing an established cell line from hypernephroma (KU-2) as target. Growth of KU-2 cells of 1x10(4)/ml. On the other hand, serum concentration of interferon reached its highest point of 200IU/ml at 6 hours after administration of 300 million units. Therefore at least 300 million units of interferon would be required to obtain any clinical benefit. (no Refs)

106. EXTERNALLY COMMUNICATING NEPHROSTOMY CATHETERS IN PATIENTS UNDERGOING CHEMOTHERAPY (MEETING ABSTRACT)

Surya V, Fraley EE, Smith AD

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The role of externally communicating catheters in patients with obstructed ureters undergoing chemotherapy has been a controversial one. There was a fear that the catheter might act as a nidus for overwhelming infection in an already compromised host with a low white cell count. We studied 26 patients with externally communicating catheters who were on myelosuppressive chemotherapy. There were only two episodes of significant urinary tract infection in the form of pyelonephritis, although bacteruria was common. We believe that the benefits offered by an adequate form of drainage, far outweighs the risk of potential infections. (no Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

107. 'HYBRIDOMA' ANTIBODIES PREFERENTIALLY REACTIVE AGAINST RENAL CELL CARCINOMA (RCC) (MEETING ABSTRACT)

Moon TD, Vessella RL, Lange PH

No affiliation given

77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Somatic cell hybridization of mouse spleen cells with mouse myeloma cells to create 'Hybridomas' producing monoclonal antibodies (MCA) which react preferentially to specific human tumors has been reported for several human cancers. We attempted to identify a tumor preferential antigen (TPA) for RCC by the hybridization technique. Balb/C mice were immunized with various combinations of human RCC cell lines, RCC or human fetal kidney homogenates. Spleens from these mice were fused with the NS-1 or 653 variants of a Balb/C myeloma cell line using polyethylene glycol. Supernatants from successful fusions were screened for appropriate antibodies using an enzyme linked immunoabsorption assay. Hybrids producing antibodies testing positively against two human RCC cell lines were cloned by limiting dilution. Antibodies from these clones were screened against additional human cells, including other RCC cell lines, non-RCC cell lines, and normal tissues including allogeneic lymphocytes and normal kidney. Of twenty fusions, appropriate antibody producing hybrids were found in up to 25% of wells. Twelve stable long term cultures were developed and cloned. Several MCA's were identified, three of which appear to react preferentially with RCC cell lines (clones C22-1, C22-2, and C22-3). Additional MCA's were reactive to other tumor cell lines (bladder or melanoma) along with those of RCC, indicating a common or antigenically similar membrane determinant (C22-4 and E68-1). (no Refs)

108. ESTABLISHMENT AND CHARACTERIZATION OF A HUMAN RENAL CELL CARCINOMA CELL LINE IN VITRO AND IN NUDE MICE (MEETING ABSTRACT)

Lewis DA, Goldrosen MH, Sandberg AA, Beckley S, Pontes JE

No affiliation given

77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

A cell line was established from a primary renal cell carcinoma resected from a female patient who subsequently underwent successful specific active immunotherapy with autologous tumor cells and adjuvant for metastatic disease. A tumor specimen was subjected to a sequential enzymatic disaggregation by collagenase, hyaluronidase, pronase, and DNAse to obtain a single cell suspension. Cells suspended in RPMI-1640 plus 10% fetal bovine serum and placed in tissue culture flasks were adherent in 6-12 hours and grew as a monolayer to confluency. Monolayers were subcultured by exposure to 0.25% trypsin. After 5 passages in vitro, the cells were homogeneous and displayed a well defined globular shape with pseudopod-like structures. At the 23rd in vitro passage the cell line demonstrated hypertetraploidy with extra chromosomes in almost all groups. Deletion of the long arms of chromosomes 6 and 11 and an isochromosome of number 1 were observed. After 19 in vitro passages, 5x10(6) cells/mouse were injected subcutaneously into the backs of 12 male and 8 female randombred

Swiss Nu/Nu mice. Tumors appeared in 7-10 days in 7/8 females and 1/12 males. This is consistent with the fact that the original tumor possessed estrogen receptors. The histology of the nude mouse tumors was consistent with the original diagnosis of a poorly to moderately differentiated renal cell carcinoma. (no Refs)

109. ADJUVANT IMMUNOTHERAPY IN MURINE RENAL CELL CARCINOMA (MEETING ABSTRACT)

Huben R, Connelly RW, Goldrosen M, Murphy GP, Pontes JE
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

A renal cell carcinoma arising spontaneously in a BALB/c CR mouse and has been carried intrarenally in such model for many years in our laboratory. This tumor is a poorly differentiated carcinoma that metastasizes consistently to the lungs. One hundred BALB/c Cr mice were injected intrarenally (left kidney) with 10(5) tumor cells. Ten days after injection, left nephrectomy was performed in all the animals. The mice were then subdivided into four groups for immunotherapy: control, complete Freund's adjuvant (CFA), CFA plus tumor cell membranes and CFA plus radiated (15,000 rads) whole tumor cells. After weekly immunizations (x4) all animals were challenged with 2.4 x 10(5) tumor cells injected in the left thigh. Weekly local tumor measurements were done using a caliper. At the end of one month all animals were sacrificed and an autopsy performed. There was a significantly delay of tumor growth in the group receiving either CFA alone of CFA plus cell membranes at 2 and 3 weeks after the challenge. At the end of the experiment the only difference noted was the group receiving CFA plus cell membranes. Autopsy findings of lung metastasis revealed that although CFA alone significantly slowed the local growth rate, a significantly higher number of animals in this group developed lung metastasis when compared with the control or animals receiving specific immunotherapy. (no Refs)

110. THERMOCHEMOTHERAPY OF RENAL ADENOCARCINOMA IN WISTAR-LEWIS RATS (MEETING ABSTRACT)

Babayan RK, Lele PP, Krane RJ
No affiliation given
77th Annual Meeting of the American Urological Association, Inc; May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Localized ultrasonic hyperthermia (42-43C x 20 min) has been shown to have a growth stabilizing effect on the size or renal cancer nodules transplanted subcutaneously in the flanks of Wistar-Lewis rats. Intraperitoneal injection of cyclophosphamide (CTX) has also been demonstrated to have some degree of cytotoxicity against this spontaneously arising murine neoplasm. In order to investigate whether moderate localized hyperthermia could potentiate the cytotoxic effect of CTX, 30 rats underwent flank implantation of renal tumor from syngeneic donors. Four weeks post-implantation, with the flank nodules 2-3 cm in diameter, the rats were randomized into four treatment groups: 1) controls, 2) hyperthermia, 3) CTX (20 mg/kg), 4) hyperthermia and CTX. Rats were treated weekly x 3. Effectiveness of treatment was assessed by measuring flank nodules in 3 perpendicular diameters and estimating tumor volume by D1xD2xD3/2. Statistically significant growth retardation was achieved with each treatment modality. The combination of hyperthermia and CTX yielded the best anti-tumor response, with a growth reduction exceeding a mere additive effect. (no Refs)

111. THE CLONOGENIC GROWTH OF CELLS DERIVED FROM BLADDER WASHINGS (BW) IN PATIENTS WITH BLADDER CANCER (MEETING ABSTRACT)

Soloway MS, Niell HB
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The two layer agar system has been used to evaluate the growth into colonies or clusters of cells derived by saline bladder irrigation in 71 patients with current or prior transitional cell carcinoma (TCC) and 15 individuals without cancer. The ability of tumor cells to grow in vitro might supplement the histology and cytology in providing prognostic guidelines. Cluster/colony formation was scored from 14-21 days. Eighteen BW yielded insufficient cells for analysis; 7 were contaminated. Sixty-eight provided sufficient cells to compare growth with the histologic findings at the time of BW. Patients with TCC at the time of BW were more likely to produce colonies and/or clusters. Since intravesical chemotherapy (IC) might alter tumor cell viability or diminish the number of available cells for in vitro growth, patients with TCC were analyzed according to IC. Although some of the patients not currently on IC had received drugs in the past, it is evident that IC decreases not only the cellular yield but the ability of cells to form colonies and/or clusters. This is consistent with the denuding action of these drugs on the urothelium. (no Refs)

112. AVIDIN-BIOTIN IMMUNOENZYMATIC DETECTION OF TUMOR ASSOCIATED ANTIGENS UTILIZING HYBRIDOMAS (MEETING ABSTRACT)

Whitmore KE, DeKernion JB, Fahey JL, Messing EM, Bubbers JE
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The supernatants of hybridomas resulting from the fusion of spleen cells from mice immunized with the human bladder cancer cell line 647V and mouse myeloma line SP2/OAg14, were used to detect tumor associated antigens (TAA's) on human cell lines, (melanoma, lung carcinoma, and normal lymphocytes), and fresh frozen tissue sections of normal and malignant bladder, utilizing a modification of Hsu's ABC immunoperoxidase assay. The avidin-biotin-peroxidase complex (ABC) is a 2-step immunoenzyme assay that bridges the test sample, primary antibody or hydridoma, secondary antibody (biotinylated horse antimouse IgG), and the avidin molecule of the ABC complex. When compared to the immunofluorescent, radioimmunoassay, and other immunoenzymatic assays, (peroxidase-anti-peroxidase), increased sensitivity and decreased background staining are achieved. The use of positive controls. (normal human lymphocytes and normal fresh frozen bladder tissue), emphasized the importance of the following variables: antigen accessibility, section fixation, concentration of the secondary antibody, (increased concentration provides increased biotinylated antibody sites to bind ABC complex avidin molecules), and incubation time of the oxidizing staining reagent, 3-3' diaminobenzidine (DAB). The ABC immunoenzymatic assay allows for: greater dilution of the primary antibody, labelling of the secondary antibody, and an excessive number of ABC complex binding sites. (no Refs)

113. CYTOLOGIC DIAGNOSIS OF TRANSITIONAL CELL CARCINOMA BY IMMUNOCHEMICAL DETECTION OF TUMOR NUCLEOLAR ANTIGENS (MEETING ABSTRACT)

Scardino PT, Jurco S
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Nucleoli isolated from HeLa S3 cells were used to produce a rabbit antiserum capable of binding nucleoli of transitional cell carcinomas (TCCa). Cross reactivity of the antiserum with normal nucleoli was markedly reduced by absorption with fetal bovine serum, pooled human serum, kidney acetone powder, and nucleolar preparations from normal human liver or placenta. This anti-nucleolar antiserum exhibits strong reactivity at dilutions of 1:400-1:1600 in immunofluorescence and immunoperoxidase assays performed on frozen sections of human bladder cancer, prostatic cancer and renal cell carcinoma. These assays can also be performed on fresh cytology specimens fixed in acetone or ethanol, although the immunoperoxidase technique requires prior quenching of endogenous red cell peroxidase to minimize nonspecific background staining. Voided urine specimens, bladder washings and renal pelvic washings were obtained from over 100 normal individuals and patients with TCCa. Specimens were placed on ice until centrifuged at 4C on the same day. The cellular pellet was resuspended in Hank's balanced salt solution and cytocentrifuged to prepare 6-18 slides for the assay. The slides were immediately fixed in cold acetone for 30 minutes and stored at room temperature. A standard indirect immunofluorescence or immunoperoxidase assay was performed, incorporating negative and positive controls with each group of slides. Bright nucleolar staining was consistently seen only in specimens from patients with TCCa. (no Refs)

114. SYSTEMIC MITOMYCIN C (MMC) AND/OR CISPLATIN (DDP): A COMPARISON OF ANTITUMOR ACTIVITY IN PRIMARY MURINE BLADDER CANCER (MEETING ABSTRACT)

Solowy MS, Matheny R, Hopkins SC
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

The murine model of primary FANFT-induced bladder cancer provides an excellent mammalian system to study the antineoplastic activity of chemotherapeutic agents to urothelial carcinoma. Two drugs which have been effective in pre-clinical and clinical trials against transitional cell tumors are DDP, for advanced disease, and MMC for local control of superficial lesions. Early reports of systemic MMC also demonstrated TCC antitumor activity in the human. These agents have not previously been compared or used in combination systemically. Two hundred female B6C/3F1 mice fed a diet containing 0.1% FANFT were randomized into groups of 50 animals. After 41 weeks and at three week intervals, DDP (6mg/kg), MMC (2mg/kg) or DDP (4mg/kg) plus MMC (2mg/kg) was administered IP for a total of five doses. At week 55, surviving animals were sacrificed and their bladders examined grossly and microscopically for tumor. Twenty-five of 48 control animals (52%) displayed transitional cell carcinoma. Twenty-five of 35 (7%) receiving DDP, 37 of 46 (80%) receiving MMC and 26 of 34 animals (76%) in the combination regimen were tumor free at the end of the protocol. Mean tumor volume, reflected by tumor weight, was less than controls in each of the therapeutic arms. It was least in the animals who received the combination regimen. Surprisingly, MMC was more effective than DDP in inhibiting tumor growth in this model. Also, there no apparent additive effect when the two agents were combined. (no Refs)

115. CHEMOIMMUNOPROPHYLAXIS OF AN EXPERIMENTAL BLADDER CANCER WITH RETINOIDS AND BACILLUS CALMETTE-GUERIN (MEETING ABSTRACT)

Pang AD, Morales A
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Recently evidence has appeared indicating that the retinoids may enhance the host immune response and this has been advanced as an additional mechanism for their antitumor effect. We have investigated 2 different retinoids: 13-CIS-retinoic acid (Ro 4-3780) and all-trans-retinoic acid (Ro 10-9359) alone and in combination with BCG in the prophylaxis of an experimental bladder neoplasm. Groups of animals bearing a syngeneic bladder tumor were treated with either of the retinoids alone or in combination with non-specific immunotherapy. It was found that treatment of mice with Ro 4-3780 did not significantly reduce the incidence of tumor takes. Treatment with Ro 10-9359, on the other hand, induced significant protection against tumor take in 66.7% of the animals. The addition of BCG immunizations to either of the retinoid treatments showed that no therapeutic gain was obtained by the combination of Ro 4-3780 + BCG but that Ro 10-9359 + BCG further reduced the incidence of tumor takes by 30.8%. There were also marked differences in the incidence of tumor regression among groups. For the BCG group alone it was 45.5%. In animals receiving Ro 4-3780 alone it was only 10% but, the addition of BCG to this retinoid resulted in a significant increase incidence of tumor regression to 41.7%. Ro 10-9359 alone induced tumor regression in 12.5% of mice but Ro 10-9359 + BCG resulted in an 83% incidence of regression which is highly significant. (no Refs)

116. IMMUNOPROPHYLAXIS OF A MURINE BLADDER CANCER WITH HIGH DOSE BCG IMMUNIZATIONS.

Pang AS, Morales A
(c/o Morales) Dept. Urology, Queen's Univ., Kingston General Hosp., Victory 4, Kingston, Ontario K7L 2V7, Canada
J Urol; 127(5):1006-1009 1982

The immunoprophylactic effect of Mycobacterium bovis, strain Bacillus Calmette-Guerin (BCG) was studied in a syngeneic bladder tumor system. Injection of a high dose of viable BCG 10 days before tumor cell challenge induced a 46% reduction in tumor take. On the other hand, no protection against tumor take was afforded by the simultaneous administration of BCG and tumor cells. Complete tumor regression, however, was observed in a number of animals of the two groups receiving BCG: 90% in the group receiving the vaccine and the tumor simultaneously and 50% in those being immunized 10 days before tumor challenge. These findings indicate that high dose, viable BCG immunization favorably alters the course of this experimental tumor. (Author abstract) (25 Refs)

117. EFFECT OF INTERFERON ON THE GROWTH OF A MURINE BLADDER TUMOR, MBT-2 (MEETING ABSTRACT)

Ratliff TL, Oakley DM, Shapiro A, Catalona WJ
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

We examined the effect of murine L cell interferon (IFN beta) and immune interferon (IFN gamma) on the growth of a transplantable N-[4-(5-nitro-2-furyl)-2-thiazolyl]formide (FANFT)-induced bladder tumor, MBT-2. IFN beta was generated by stimulation of L929 cells with Newcastle Disease Virus and purified to a specific activity of approximately 10(6) units/mg protein. IFN gamma was prepared by stimulation of murine splenocytes with phytohemagglutinin and purified to a specific activity of approximately 10(4) units/mg protein. C3H/HeJ female mice were injected in the hind leg with 10(4) viable MBT-2 cells, and therapy was initiated on the same day by injection 500 units IFN gamma, 1000 units IFN beta into the tumor-bearing leg. Therapy was continued for 7 consecutive days and at 3 day intervals thereafter for 4 injections. Controls include injection of a mock IFN preparation and phosphate buffered saline (PBS). Mice treated identically were sacrificed at various times during treatment to monitor immune parameters. The results show a significant inhibition of tumor outgrowth by both IFN gamma and IFN beta as compared to controls. Eighteen days after tumor injection 80% of the mock- and 90% of the PBS-treated animals possessed palpable tumors while after 37 days only 20% of the IFN beta and 30% of the IFN gamma treated mice had tumors. Studies on the immune response show a significant increase in natural killer cell activity in both IFN gamma and IFN beta treated animals. (no Refs)

118. INHIBITION OF A MOUSE BLADDER TUMOR LINE BY INTERFERON ASSESSED IN VITRO IN A CLONOGENIC ASSAY (MEETING ABSTRACT)

Kadmon D, Ratliff TL, Heston WD, Catalona WJ
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Immune type gamma interferon was generated by stimulation of splenocytes from C57B/6 mice with phythohemagglutinin. The interferon was partially purified by passage over control pore glass beads. The FANT-induced mouse bladder tumor MBT-2 line was maintained in culture in RPMI-1640 supplemented with antibiotics and 10% calf serum. Single cell suspensions were prepared by mechanical disaggregatin and the desired concentrations were plated in volumes of 5 ml ni petri dishes without agar or feeder layers. Colonies were counted following 5 days of incubation at 37 C, 5% CO2 in air and saturation humidity. Cloning efficiency was 8% -18% and a linear relationship was obtained between the number of cells plated and the number of colonies formed. When the cells were assayed in the presence of various doses of gamma interferon, the following results were obtained: at interferon concentrations of 500, 250, 125, 62.5, and O u/rıl, the percentage of inhibition was 100, 98.5, 72, 50, and 0, respectively. When MBT-2 cells were assayed, in a similar manner in the presence of alpha interferon, we observed the maximal inhibition of a colony formation to be only 50%. Gamma and alpha interferons are inhibitory to MBT-2 stem cells in vitro, in a dose dependent manner. (no Refs)

119. LONG TERM PROTECTION AGAINST BLADDER CANCER PRODUCED BY IMMUNOTHERAPY (MEETING ABSTRACT)

Lamm DL, Reichert DF
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Long term tumor free survivors from experiments using BCG immunotherapy were randomized and tested for long term protective immunity against murine bladder carcinoma (MBT-2). Fifty-one mice that had survived tumor challenge and fifteen previously unchallenged mice received an intradermal inoculation of 1 x 10(6) MBT-2 cells. Immunotherapy consisted of intraperitoneal Levamisole, intralesional live Tice strain BCG, or intralesional saline given at 24 hours. The 15 controls received saline. All three group of survivors had less tumor growth than control. The BCG group, but not the Levamisole group, had significant inhibition of tumor growth compared with the long term survivors receiving saline. A second experiment compared 22 non-immune mice, 21 mice pre-immunized intravenously with 300 ug of BCG cell walls (CW), and 18 mice surviving MBT-2 after live BCG treatment. Non-immune and survivor groups were randomly subdivided into saline or treatment groups. CW pre-immunized mice were divided into matching groups according to footpad response to PPD. All mice received tumor followed at 24 hours by intralesional administration of the test agent. The CW pre-immunized and non-immune mice received either the immunostimulant P3+Re-Glycolipid or the carrier solution. The group of survivors received either saline or live BCG. Both BCG and saline survivor groups showed significantly less tumor growth and longer survival than non survivor controls. Animals treated with P3 Re-Glycolipid with or without preimmunization with CW did not differ from control. Footpad response to PPD did not correlate with tumor growth. (no Refs)

120. PROTECTIVE EFFECTS OF BLADDER SURFACE GLYCOSAMINOGLYCANS AGAINST CARCINOGENIC AGENTS (MEETING ABSTRACT)

Bodensiab W, Stauffer C, Schmidt JD, Parsons CL
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association Missouri. American Urological Association 254 pp., 1982.

It has been shown in animal models that the bladder surface is lined by a layer of glycosaminoglycans (GAGs) that prevents bacterial adherence and infection. The GAG layer also prevents calcium and proteins from adhering to the bladder surface. We believe that GAG layer acts as a nonspecific barrier between the transitional cells and the environment, protecting them from infection, stone formation and carcinogenesis. To determine whether the GAG layer also blocks the access of carcinogens to the transitional cells we tested the tumorigenic effects of methylnitrosourea (MNU), a complete carcinogen, in 4 groups of rabbits using an in vivo assay that we have described. Group 1 received MNU only; Group 2 underwent removal of the natural GAG layer with HCl followed by treatment with MNU; Group 3 underwent HCl removal of the GAG layer and its replacement with the synthetic analog sodium pentosanpolysulfate (SP54) followed by treatment with MNU; Group 4 received SP54 followed by MNU. All rabbits' bladders were assayed for tumors at 18, 22, 26, 30 and 34 weeks. Group 2 showed the highest incidence of tumors, approximately 55%. Approximately 25% of Group 1 rabbits,

12% of Group 3 rabbits and 6% of Group 4 rabbits developed tumors. The differences between tumor incidence in the groups receiving SP54 before MNU (Groups 3 and 4) and the group receiving MNU after HCl removal of the natural GAG layer (Group 2) were statistically significant, suggesting that SP54 prevented the increased carcinogenic effects of MNU seen in bladders whose natural GAG layer had been removed. (no Refs)

121. EXPERIMENTAL CYTOXAN CYSTITIS: 1) EVIDENCE THAT ACROLEIN IS THE UROTHELIAL INJURING AGENT PRODUCING CYTOXAN CYSTITIS 2) PREVENTION BY INTRAVESICAL INSTILLATION OF N-ACETYL CYSTEINE (MUCOMYST) OR SODIUM BISULFITE (MEETING ABSTRACT)

Chaviano AH, Ruggiero KJ, Gill WB
No affiliation given
77th Annual Meeting of the American Urological Association, Inc May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Cyclophosphamide injury of the bladder (cytoxan cystitis) has become a more frequent clinical problem with the increased usage of this chemotherapeutic agent. Attempts at prevention of cytoxan cystitis have usually been confined to empiric programs utilizing diuresis, probably because of a paucity of knowledge as the the identity or mechanisms of the urotoxic metabolite(s). Metabolism of Cytoxan has been postulated to yield the aldehyde acrolein (propenal), which has been proposed as the agent responsible for cytoxan cystitis. Employing a rat model of cytoxan cystitis, we have demonstrated that intravesical instillation of acrolein reproduced the bladder injury of systemically administered Cytoxan. Bladders injured by systemic Cytoxan or intravesical acrolein had thickened mucosal surfaces, marked edema, increased bladder wet weights and stained deeply with methylene blue. Control animals instilled with normal saline instead of acrolein did not produce urothelial injury. Prevention of cytoxan or acrolein cystitis was accomplished by intravesical instillation of N-acetyl cysteine or sodium bisulfite. These aldehyde inactivating agents, when instilled intravesically, were completely protective against the bladder injury of either intravesical acrolein or systemic Cytoxan. (no Refs)

122. MONOCLONAL ANTIBODIES OF HUMAN PROSTATE ACID PHOSPHATASE (MEETING ABSTRACT)

Lee CL, Li CY, Jou YH, Murphy GP, Chu TM
No affiliation given
77th Annual Meeting of the American Urological Association, Inc., May 16-20, 1982, Kansas City, Missouri. American Urological Association 254 pp., 1982.

Hybridoma-derived monoclonal antibodies directed to human prostate acid phosphatase (PAP) have been produced by fusing mouse myeloma cells (P3x63Ag8.653) with spleen cells from mice immunized with purified PAP. Supernatants of hybridoma cell culture were screened for antibody production by an immune hemolytic method, using PAP coupled to sheep red blood cells as target cells. Forty-nine percent (34/69) of hybrid clones were found to secrete anti-PAP antibodies. Four of these antibody-producing hybridoma cells were selected and further subcloned by limiting dilution method until only one single clone per well was obtained. One hundred fifty-six out of 252 clones were found to continue secreting anti-PAP antibodies, which were subsequently classified into four different subclasses of immunoglobulin as IgM (3 clones), IgG2a (2 clones), IgG3 (1 clone) and IgG1 (150 clones) with Kappa-light chain. Four monoclonal antibodies, one from each isotype, were selected for characterization. Results from a direct binding assay suggested that hybridoma anti-PAP monoclonal antibodies IgG1 and IgM recognized two distinct epitopes of PAP molecule, while IgG2a and IgG3 antibodies recognized another (same) epitope. Immunologic specificity of these four monoclonal antibodies was further evaluated by a competitive binding assay and an immunohistochemical method. Results demonstrated that anti-PAP monoclonal antibodies IgG1 and IgM possessed a higher specificity for PAP than for other non-prostate acid phosphatases, in comparison with monoclonal antibodies IgG2a, IgG3 and xenoantibodies. (no Refs)

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GENITO-URINARY CANCERS

Diagnosis, Treatment

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TUMORS OF THE KIDNEY (GENERAL)

1. RADIOLOGIC EVALUATION OF THE URETERAL STUMP.

Pollack HM, Banner MP, Popky GL
Dept. Radiology, Hosp. Univ. Pennsylvania, 3400 Spruce St., Philadelphia, PA, 19104
Radiology; 144(2):225-230 1982

The ureter that is left in place after nephrectomy may occasionally give rise to symptoms that are often attributed to other causes. The disease may not be recognized until it is far advanced or is discovered during surgery for another illness. Fourteen diseased ureteral stumps that became symptomatic months to yr after nephrectomy are described. Calculi were found in six ureters and neoplasms in five; ureteritis cystica developed in one, infection secondary to vesicoureteral reflux in one, and empyema proximal to an obstructed ectopic ureteral orifice in another. Although there are several methods of imaging the ureteral stump, the best method in the authors' view is retrograde ureterography through a 5-F ureteral catheter. The catheter is inserted during cystoscopy but the injection of contrast medium is done in a radiographic/fluoroscopic facility

HE 20.3172/4

where carefully monitored fluoroscopic spot radiographs can be obtained. (Author abstract) (11 Refs)

2. RADIOGRAPHIC GRADING SYSTEM FOR RENAL CELL CARCINOMA WITH CLINICAL AND PATHOLOGICAL CORRELATION.

Wong WS, Cochran ST, Boxer RJ
Dept. Radiological Sciences, Univ. California Los Angeles Center Health Sciences, Los Angeles, CA, 90024
Radiology; 144(1):61-65 1982

Clinical records, pathological specimens, and radiographs of 106 patients with renal cell carcinoma were reviewed and coded for computer analysis. Twenty radiographic features of the tumor were examined for their possible prognostic significance. Three angiographic signs were associated with an unfavorable prognosis: tumor size greater than 10 cm, poor definition of tumor margins, and parasitic circulation. A new radiological grading system was developed based on these signs. Upon comparison with existing clinical staging and pathological grading systems, the new system predicted prognosis equally well. In addition, it has the advantages of predicting prognosis preoperatively and being simple for clinical use. (Author abstract) (23 Refs)

3. LYMPHADENECTOMY IN RENAL ADENOCARCINOMA.

Siminovitch JP, Montie JE, Straffon RA
(c/o Montie), Cleveland Clinic Foundation, 9500 Euclid Ave., Cleveland, OH, 44106
J Urol; 127(6):1090-1091 1982

From 1968 to 1978, 241 patients underwent radical nephrectomy for renal adenocarcinoma. The regional lymph nodes were resected in 102 patients with disease localized to the kidney; including (1) resection of all nodal tissue from the diaphragm to aortic bifurcation, (2) resection of ipsilateral nodes from the renal pedicle to the inferior mesenteric artery or (3) incidental lymph node resection. Of nine patients with evidence of lymph node metastases only one remained free of disease 7 yr postoperatively. This patient had only a single hilar lymph node as evidence of metastatic disease. A limited rather than an extended lymphadenectomy is a suggested addition to a radical nephrectomy in patients with locally resectable renal adenocarcinoma without evidence of distant lymph node or parenchymal metastases. (Author abstract) (9 Refs)

4. DISTANT METASTASIS OF RENAL ADENOCARCINOMA IN NEPHRECTOMIZED CASES.

Saitoh H, Nakayama M, Nakamura K, Satoh T
Dept. Transplantation, Tokai Univ. Sch. Medicine, Bohseidai, Isehara-shi, Kanagawa-ken, 259-11, Japan
J Urol; 127(6):1092-1095 1982

In an analysis of the autopsy records of 1,828 patients with renal adenocarcinoma 424 nephrectomized and 1,404 nonnephrectomized cases were compared to explore the effect of nephrectomy on metastasis. Over-all, no significant difference was observed except for a high incidence of metastases to the brain and femur, and a low incidence of metastases to the ipsilateral adrenal and renal hilar lymph nodes in nephrectomized cases. No significant difference was seen between the nephrectomized and nonnephrectomized cases with metastatic involvement of one organ, with respect to the frequency with which any given organ was involved. There were five patients with metastasis in whom survival was 10 yr or longer after nephrectomy. Lung metastasis was present in four cases and lymph node metastasis in one. Of these five patients three had undergone nephrectomy only. The results failed to show any evidence of the effectiveness of nephrectomy or adjuvant therapy. It was inferred that the mode of metastasis and the clinical progress of patients after nephrectomy for renal adenocarcinoma are influenced more profoundly by characteristics of the tumor itself than by nephrectomy. (Author abstract) (12 Refs)

5. PHASE II STUDY OF 4'-EPI-DOXORUBICIN IN METASTATIC RENAL CANCER.

Fossa SD, Wik B, Bae E, Lien HH
General Dept., Norwegian Radium Hosp., Montebello, Oslo 3, Norway
Cancer Treat Rep; 66(5):1219-1221 1982

In 20 patients with measurable metastatic renal cancer, 4'-epi-doxorubicin (adriamycin) administration (75 mg/m2, every 3 wk) did not result in any tumor remission. Hematologic and gastrointestinal toxicity was generally mild to moderate. Anthracycline-induced cardiac side effects were not observed in any of the patients. (Author abstract) (4 Refs)

6. PHASE II TRIAL OF DIANHYDROGALACTITOL IN ADVANCED RENAL CELL CARCINOMA. A SOUTHWEST ONCOLOGY GROUP STUDY.

Ratanatharathorn V, Baker LH, Balducci L, Talley RW, Hoogstraten B
Operations Office, Southwest Oncology Group, 4450 Medical Drive, San Antonio, TX, 78229
Cancer Treat Rep; 66(5):1231-1232 1982

A phase II study of dianhydrogalacititol (DAG) was conducted in 44 patients (33 men, 11 women; mean age 57 yr) with advanced renal cell carcinoma. Of the 44 patients, 28 had had a nephrectomy;. 12/44 had been treated with cytotoxic therapy, 16/44 with radiotherapy, and 4/44 with both chemotherapy and radiotherapy. An initial dose of 30 mg/square meter (m2)/day of DAG was administered by iv push daily for 5 days every 4 wk to patients with a normal tolerance to chemotherapy, no prior treatment with nitrosoureas, and normal liver and renal function; other patients received 25 mg/m2/day. The dosage was subsequently reduced to 15 mg/m2/day for patients with impaired renal function and/or one functioning kidney. For patients demonstrating mild or no adverse effects, the dose for subsequent courses was escalated by an increment of 5 mg/m2/day. A similar increment for dose de-escalation was adopted for patients experiencing severe side effects. Thus, 21, 7, and 16 patients, respectively, were treated at starting dose levels of 30, 25, and 15 mg/m2. Of the 41 evaluable patients, one experienced a brief partial response lasting 4 wk. Both degree and frequency of myelosuppression were the most severe in patients receiving a starting dose of 30 mg/m2/day. Despite dose de-escalation in 12 subsequent courses, there were three drug-related deaths due to irreversible myelosuppression. Significant myelosuppression was observed in only two patients who received a starting dose of 15 mg/m2/day, despite dose escalation in 8/68 courses of DAG administered. The median survival of patient receiving the lowest dose level was longer than that of patients in the other two groups. The results indicated that DAG has no role in the treatment of advanced renal cell carcinoma. (1 Ref)

7. HIGH-DOSE TAMOXIFEN IN METASTATIC RENAL CELL CARCINOMA.

Lanteri VJ, Dragone N, Choudhury M, Beckley S, Wajsman Z, Pontes JE
(c/o Pontes) Dept. Urologic Oncology, Roswell Park Memorial Inst., 666 Elm St., Buffalo, NY, 14263
Urology; 19(6):623-625 1982

The effectiveness of high-dose tamoxifen in the treatment of metastatic renal cell carcinoma was evaluated. Fifteen patients were treated for 8 wk with 80 mg of tamoxifen daily. Side effects were minimal. Results showed progression of disease in 47% of the patients, no change in disease was seen in 40%, and 13% showed a partial objective response. Twenty percent of patients showed deterioration of performance status. High-dose tamoxifen does not appear to be useful in the treatment of advanced renal cell carcinoma. (Author abstract) (11 Refs)

8. BLADDER METASTASIS: A RARE CAUSE OF HEMATURIA IN RENAL CARCINOMA.

Swanson DA, Liles A
Dept. Urology, M.D. Anderson Hosp. and Tumor Inst. of Houston, 6723 Bertner Ave., Houston, TX, 77030
J Surg Oncol; 20(2):80-82 1982

A case is presented in which gross hematuria was traced to bladder metastases. Although this clinical entity is extremely rare, it must be remembered to assure appropriate therapy, especially when hematuria is intractable and palliation is considered. (Author abstract) (10 Refs)

9. RENAL ONCOCYTOMATOSIS.

Warfel KA, Eble JN
Dept. Pathology, Indiana Univ. Sch. Medicine, Indianapolis, IN
J Urol; 127(6):1179-1180 1982

We report a case in which more than 200 renal oncocytomas were present. This is the first reported case of multiple oncocytomas distributed diffusely in both kidneys and the second reported case of kidneys containing innumerable small cortical neoplasms. The term 'renal oncocytomatosis' is coined. (Author abstract) (4 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

10. COMPUTED TOMOGRAPHY OF TRANSITIONAL-CELL CARCINOMA OF THE RENAL PELVIS AND URETER.

Baron RL, McClennan BL, Lee JK, Lawson TL
Dept. Radiology, Hosp. Univ. Pennsylvania, 3400 Spruce St., Philadelphia, PA, 19104
Radiology; 144(1):125-130 1982

Preoperative staging of transitional-cell carcinoma of the upper urinary tract is important for identification of those tumors amenable to limited resection. Twenty-two patients were examined using computed tomography (CT), and 3 patterns were noted: (a) a focal intraluminal mass, (b) ureteral wall thickening with luminal narrowing, and (c) an infiltrating mass. In most cases, attenuation was similar to that of soft tissue; one tumor was calcified. Tumors of the renal pelvis may exhibit contrast enhancement. In 11 cases, excretory urography was inadequate or not attempted. CT demonstrated the site and cause of obstruction in all cases and proved to be a useful noninvasive staging procedure for suspected or proved transitional-cell carcinoma of the upper urinary tract. (Author abstract) (17 Refs)

11. USE OF COMPUTERIZED TOMOGRAPHY IN THE EVALUATION OF FILLING DEFECTS OF THE RENAL PELVIS.

Greenberg M, Falkowski WS, Sakowicz BA, Neiman HL, Schaeffer AJ
Dept. Urology, Northwestern Univ. Medical Sch., Chicago, IL
J Urol; 127(6):1172-1176 1982

Computerized tomography has been used in the evaluation of five patients with radiolucent masses of the collecting system. There were three cases of renal calculi, one peripelvic cyst and one squamous cell carcinoma of the renal pelvis. The results of computerized tomography scanning are correlated with the results of excretory urography and ultrasonographic scanning. The diagnostic advantage of computerized tomography scanning for evaluation of radiolucent masses of the upper collecting system is elucidated. (Author abstract) (11 Refs)

12. ANALGESICS AND CANCER OF THE RENAL PELVIS IN NEW SOUTH WALES.

McCredie M, Ford JM, Taylor JS, Stewart JH
Renal Unit, Dept. Medicine, Westmead Hosp., Westmead, N.S.W. 2145, Australia
Cancer; 49(12):2617-2625 1982

A lifetime history of analgesic and tobacco consumption was obtained by a questionnaire completed at interview from 67 patients with carcinoma of the renal pelvis (50 women, 27 men) and 180 control subjects drawn from two sources, friends of patients and persons attending a health screening clinic. Regular consumption of analgesics conferred a 10fold relative risk of renal pelvic cancer in women and in men a risk ratio of 4-8. The fraction of cases for which analgesic consumption was an attributable risk was 0.74 in women and 0.43 in men. The effect of tobacco, much less than that of analgesics, was significant only in women (risk ratio approx 4; attributable risk 0.4), and no dose-response relationship was demonstrated. Relative excess risks suggested a synergistic effect when both analgesics and tobacco had been consumed. Standardized risk ratios indicted a dose-response relationship for both phenacetin-containing and non-phenacetin analgesics: moderate consumption doubled the risk of renal pelvic cancer, and heavy consumption increased the risk to 6-16 times that for consumers. (Author abstract) (45 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

13. INVERTED PAPILLOMA OF THE URINARY TRACT.

Anderstrom C, Johansson S, Pettersson S
Dept. Urology, Sahlgrenska sjukhuset, Univ. Goteborg, Goteborg, Sweden
J Urol; 127(6):1132-1134 1982

We report nine clinicopathological cases of inverted papilloma. The occurrence of associated true malignant epithelial tumors in the urinary tract in four patients is not concurrent

with previous reports. Even though inverted papilloma per se is a benign lesion it may be associated with malignant epithelial tumors of the urinary tract. The similarity between proliferative lesions of the bladder and inverted papilloma is discussed. The possibility of common etiologic factors of proliferative cystitis, cystitis cystica, cystitis glandularis, inverted papilloma and ordinary bladder tumors may be considered. (Author abstract) (21 Refs)

14. OBTURATOR NERVE STIMULATION DURING ENDOSCOPIC RESECTION OF BLADDER TUMORS: PATHOPHYSIOLOGICAL ASPECTS AND PREVENTION.

Giannotti P, Merciadri R, Aragona F
Istituto di Clinica Chirurgica, Universita di Pisa, Pisa, Italy
Minerva Urol; 34(2):71-74 1982

Massive adductor muscle contraction due to obturator nerve stimulation occurs in approx 20% of all cases of transurethral resection of urinary bladder neoplasms. The pathophysiological aspects of the phenomenon are discussed. Obturator nerve stimulation during transurethral resection can be prevented efficiently by blocking anesthesia of the obturator nerve. This technique is simple, precise, rapid, and compatible with any type of general or peridural anesthesia. (4 Refs) (In ITA)

15. CYSTOTOMY AND PEROPERATIVE IRRADIATION FOR BLADDER CANCER: LONG-TERM RESULTS.

Appelqvist P, Salmo M
Dept. Radiotherapy and Oncology, Univ. Central Hosp., Haartmaninkatu 4, 00290 Helsinki 29, Finland
J Surg Oncol; 20(2):75-79 1982

The long-term results were investigated in 46 patients of bladder cancer treated by cystotomy and peroperative irradiation. This combination therapy appears to produce grossly comparable long-term survival results with surgery and radiotherapy. There were 10 complications during a 10-yr period after the treatment. We think that cystotomy and peroperative irradiation could still be used for the treatment of bladder cancer especially when the tumor is not too large, is situated at the base of the bladder, segmental resection cannot be performed, and the patient wants to spare the bladder function. (Author abstract) (13 Refs)

16. PORCINE SENSITIZED LYMPH NODE CELLS (IMMUNOTHERAPY) AND ATTENUATED IRRADIATION FOR INFILTRATIVE TRANSITIONAL CELL CARCINOMA OF BLADDER.

Cockett AT, Di Sant'Agnese PA, Hamlin DJ, Keys HM
601 Elmwood Ave., Rochester, NY, 14642
Urology; 19(6):593-598 1982

Thirty-four patients with infiltrative bladder carcinoma, Stage B2C or higher were treated with immunotherapy and irradiation. Seventeen patients are alive, and 17 have succumbed to their disease. Eight patients underwent cystectomy after immunotherapy and irradiation; 6 of 8 are alive and well at the present time. The technique of immunotherapy is outlined. New methodology for sequential CT scans and scheduled bladder biopsies is mentioned. The 17 patients have survived 12 to 69 mo after immunotherapy and irradiation. Downstaging is demonstrated based on sequential CT scans of the bony pelvis and histologic biopsy. The biopsies reveal eosinophilia and multinucleated giant cells, a specific response to immunotherapy. A prospective randomized study will be initiated. (Author abstract) (10 Refs)

17. INTRAVESICAL THERAPY OF LOW STAGE BLADDER CARCINOMA WITH MITOMYCIN C: COMPARISON OF RESULTS IN UNTREATED AND PREVIOUSLY TREATED PATIENTS.

Prout GR, Griffin PP, Nocks BN, DeFuria D, Daly JJ
Urological Service, Massachusetts General Hosp., Boston, MA, 02114
J Urol; 127(6):1096-1098 1982

There were 28 patients with superficial bladder carcinoma (Ta, T1 or TIS) entered into protocols for intravesical therapy with mitomycin C. Of the 28 patients 16 had failed previously on thio-tepa (Group A), 7 had responded successfully to thiotepa (Group B) and 5 had never received thio-tepa (Group C). There were five complete responses and nine failures to mitomycin C therapy in Group A. There were five and four complete responses to mitomycin C therapy in Groups B and C, respectively. The treatment plan consisted of the instillation of 40 mg mitomycin C in 40 cc water weekly for 8 wk. Because of severe local irritative symptoms 3 of the 28 patients did not complete the course of therapy. In another patient a diffuse body rash developed after the third instillation. Mitomycin C seems effective in ablating low stage bladder carcinoma, although it is less effective in patients who have failed prior thiotepa therapy. (Author abstract) (18 Refs)

18. PROPHYLACTIC CHEMOTHERAPY OF SUPERFICIAL TRANSITIONAL CELL BLADDER CARCINOMA: AN EORTC RANDOMIZED TRIAL COMPARING THIOTEPA, AN EPIPODOPHYLLOTOXIN (VM26) AND TUR ALONE.

Schulman CC, Robinson M, Denis L, Smith P, Viggiano G, De Pauw M, Dalesio O, Sylvester R, Members of the EORTC Genito-Urinary Tract Cancer Cooperative Group
Cliniques Universitaires de Bruxelles, Erasme Hosp., 808 Route de Lennick, B-1070 Brussels, Belgium
Eur Urol; 8(4):207-212 1982

The Urological Group of the European Organization for Research on Treatment of Cancer (EORTC) has performed a randomized clinical trial designed to compare the disease-free interval, the recurrence rate and the number of patients with increase in tumor stage after transurethral resection (TUR) only or TUR followed by prophylactic bladder instillation of thiotepa or VM26 (an epipodophyllotoxin derivative). Drug instillation was initiated 1 mo after TUR and subsequently administered weekly for 4 wk and then monthly for 1 yr. Three hundred and seventy patients from 20 participating institutions in six different countries were admitted to this protocol. Three hundred and eight eligible patients with follow-up were analyzed. There was no difference among the groups regarding the time of first recurrence (disease-free interval) but thiotepa significantly reduced the recurrence rate as compared to the control group or VM26. When adjusting for primary or recurrent patients stratification, the results remained the same. (Author abstract) (22 Refs)

19. UNUSUAL CAUSE OF BILATERAL URETERAL OBSTRUCTION.

Bernath AS, Addonizio JC, Thelmo W, Davidian MD, Herman B
Dept. Urology, New York Medical Coll., Valhalla, NY
J Urol; 127(6):1169-1171 1982

Primary signet-ring adenocarcinoma of the bladder with bilateral ureteral obstruction and linitis plastica was diagnosed in a 60-yr-old man who had a 2-wk history of gross hematuria and previous nocturia and dysuria. The patient underwent ex-

ploratory laparotomy, radical cystoprostatectomy, and ileal conduit ureteral diversion. The tumor was distinguished by infiltration with a poorly defined acinar pattern. In some areas of the neoplasm clusters in a single file arrangement were observed. Mucicarmine and alcian blue stains showed only a portion of the tumor population to be positive for intracytoplasmic secretion. (15 Refs)

20. A, B, H ANTIGEN DETECTABILITY IN NORMAL AND NEOPLASTIC UROTHELIUM. INFLUENCE OF METHODOLOGIC FACTORS.

Limas C, Lange P
Dept. Lab. Medicine and Pathology, Veterans Admin. Medical Center, 54th St. and 48th Ave. South, Minneapolis, MN, 55417
Cancer; 49(12):2476-2484 1982

Markedly reduced or absent reactivity for the normally expressed A B H antigens in transitional cell carcinomas (TCCs) of the human urinary bladder appears to correlate with an aggressive clinical course. To evaluate the clinical applicability of this observation, the authors investigated the influence of methodologic variants as well as certain patient characteristics on urothelial A, B, H reactivity. Biopsy-obtained TCCs and/or normal mucosae from 104 patients were examined for the effect of fixation, paraffinization, and alcohol treatment. Variability due to the secretor status and blood group of the patient was evaluated in conjunction with methodologic factors. In the fresh-frozen state, the expected antigen was always detectable in normal mucosas but only in 69% of TCCs regardless of patient's secretor status and blood group (BG). Few normal mucosae (12%) but a large number of TCCs (46%) converted to negative after paraffin processing. Similar reduction in A, B, H reactivity was also noted when the tissues were treated with concentrations of alcohol comparable to those used in the paraffin procedure. Tumor antigens were more sensitive to alcohol. This suggested that in neoplastic cells ABH determinants are not only fewer but also disproportionately represented on polar (alcohol-soluble) molecules. Alcohol more profoundly affected tissues from nonsecretors probably because the proportion of alcohol-soluble A, B, H substances differs in secretors and nonsecretors. In the fresh-frozen state, the H antigen was detectable with the Ulex Europeus lectin in the majority of TCCs from BGO patients (79%) as well as in most tumors from BGA or B patients (90%) even in the absence of the expected A or B antigen. Alcohol treatment, however, more potently reduced reactivity for H rather than the other antigens, a phenomenon that also points to the significance of glycolipid extraction and explains the marked differences in the detectability of this antigen between fresh-frozen and paraffin-processed TCCs. (Author abstract) (24 Refs)

21. BLOOD GROUP PRECURSOR T-ANTIGEN EXPRESSION IN HUMAN URINARY BLADDER CARCINOMA.

Coon JS, Weinstein RS, Summers JL
Dept. Pathology, Rush-Presbyterian-St. Luke's Medical Center, 1753 W. Congress Parkway, Chicago, IL, 60612
Am J Clin Pathol; 77(6):692-699 1982

Tumor deletion of the ABH blood group antigens (BGAg) heralds an unfavorable prognosis in human bladder cancer. The T antigen (Thomsen-Friedenreich antigen: TAg), a precursor of other BGAg, has previously been found in malignant but not most normal cells, in which the TAg is cryptic but can be unmasked with neuraminidase (NMD). We investigated the prognostic significance of TAg expression in bladder cancer by staining paraffin sections with a T-specific lectin (peanut agglutinin [PNA]) immunoperoxidase technic. Seventy-two cases of low grade, low stage bladder cancer, 21 cases of high grade bladder cancer, and 68 controls were studied. All normals expressed the TAg only after NMD treatment (Cryptic TAg+). The Grade III cancers, all invasive, either expressed the TAg (TAg+) (67%) or lacked T even after NMD (Cryptic TAg-) (29%), indicating that the T structure was lost rather than masked as in normal tissue. Thirty-nine percent of 23 Grade I and II cancers which were TAg+ or Cryptic TAg- subsequently became invasive (Stage B), compared with 10% of 49 Cryptic TAg+ cancers. For 32 Grade I and II, ABH BGAg negative cancers, 64% of TAg+ or Cryptic TAg- cancers became invasive, compared with 17% of cancers which had Cryptic TAg+. Thus, the TAg may be a prognostically useful immunohistochemical tumor marker in bladder cancer, especially for tumors negative for ABH BGAg. (Author abstract) (37 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

22. IMPROVING SURVIVAL IN PATIENTS WITH PROSTATE CANCER REGIONALLY SPREAD AT THE TIME OF DIAGNOSIS.

Holmes FF, Liu KJ
Cancer Data Service, Univ. Kansas Medical Center, Kansas City, KS, 66103
J Am Geriatr Soc; 30(4):248-250 1982

In the United States, cancer of the prostate ranks first among malignant neoplasms in elderly men. During the 20-year period 1960-1979, 5,178 men with prostatic cancer were registered at the Cancer Data Service of the University of Kansas. This study concerns 985 of these men in whom the cancer was regionally spread at the time of diagnosis. Survival differences were examined for four periods, ie, 1960-64, 1965-69, 1970-74, and 1975-79. Highly significant increases were observed in 1-year and 3-year survival (p less than 0.003) between the 1965-69 and the 1970-74 groups, seemingly coincident with a marked decrease in the dosage of estrogen as standard therapy. Another noteworthy finding was that the initial use of radiotherapy (alone or combined) increased from 4.5% in 1960-64 to 36.5% in 1975-79, a period when survival had also increased significantly. In this subset of men with prostatic cancer, survival is approaching that for an age-matched male population as determined by US Life Tables. (Author abstract) (9 Refs)

23. ASPIRATION BIOPSY OF PROSTATE.

Kaufman JJ, Ljung BM, Walther P, Waisman J
Univ. California Los Angeles Sch. Medicine, Center Health Sciences, Los Angeles, CA, 90024
Urology; 19(6):587-591 1982

Needle biopsy of the prostate has been widely practiced for more than 25 yr, whereas transrectal aspiration biopsy, first described 50 yr ago, has not. We describe our experience using the transrectal aspiration biopsy and correlate the results with histologic studies of the prostate obtained by conventional needle biopsy and surgical specimens. Aspiration needle biopsy of the prostate has a high degree of diagnostic accuracy, it causes minimal inconvenience and discomfort, the results are rapidly available, the ease of entering the suspected area in the prostate is more precise than with conventional needle biopsy,

and sampling of prostate can be greater. The disadvantages of aspiration biopsy are that the technique, being unfamiliar to most urologists, must be learned and requires an experienced cytologist for interpretation. Cytologic evaluation by aspiration biopsy and the histologic diagnosis by conventional needle biopsy are complementary. (Author abstract) (17 Refs)

24. IMMUNOHISTOCHEMICAL DEMONSTRATION OF PROSTATIC ORIGIN OF METASTASES.

Bentz MS, Cohen C, Demers LM, Budgeon LR
(c/o Cohen) Dept. Pathology, Pennsylvania State Univ., Hershey, PA, 17033
Urology; 19(6):584-586 1982

An immunoperoxidase technique for prostate specific acid phosphatase was performed on 14 lymph node metastases of prostatic carcinoma and 13 cases of metastatic adenocarcinoma from other primary sites. Eleven metastatic prostate carcinomas showed diffuse strongly positive immunostain and one showed focal weak positivity. Two prostatic and all other metastatic carcinomas were negative. Thus, the method is found to be extremely specific (100%) and to show a high degree of sensitivity (86%) for the demonstration of the prostatic origin of lymph node metastases. (Author abstract) (11 Refs)

25. EFFECTS OF TOTAL AND SUBCAPSULAR ORCHIDECTOMY ON SERUM CONCENTRATIONS OF TESTOSTERONE AND PITUITARY HORMONES IN PATIENTS WITH CARCINOMA OF THE PROSTATE.

Bergman B, Damber JE, Tomic R
Dept. Urology, Univ. Umea, S-901 85 Umea, Sweden
Urol Int; 37(2):139-144 1982

Twenty-two men with carcinoma of the prostate were consecutively subjected to either total or subcapsular orchidectomy at random. Serum concentrations of testosterone, follicle-stimulating hormone, luteinizing hormone, prolactin, thyroid-stimulating hormone and testosterone-estrogen-binding globulin were followed. No differences were found between the two groups during the 6-mo follow up period. Orchidectomy reduced testosterone concentration in all cases and none responded to human chorionic gonadotrophin stimulation 6 mo postoperatively. The concentrations of free and bound testosterone were calculated but did not vary between the two types of operation, which were considered equally efficient in reducing testosterone concentration. However, doubts about the completeness of the operation might possibly arise in cases with cancer progress and therefore we prefer total orchidectomy as the first choice, but perform subtotal orchidectomy on those men preferring this type of operation psychologically. (Author abstract) (20 Refs)

26. NEODYMION YAG LASER IN THE TREATMENT OF PROSTATIC CANCER.

Sander S, Beisland HO, Fossberg E
Dept. Surgery and Urology, Aker Hosp., Oslo, Norway
Urol Res; 10(2):85-86 1982

Use of laser treatment along with transurethral resection of the prostate (TURP) for curative treatment of localized prostatic carcinoma is reported. Five patients (59-75 yr old) were treated with the Neodymion YAG laser: three patients had Stage T1 disease, two Stage T2. All tumors were moderately differentiated adenocarcinomas. TURP extending to the capsule was performed. Laser treatment was given 4-6 wk later under spinal anesthesia. The flexible laser light was introduced via a Wolf panendoscope with telescope and an Alberran element permitting angulation of the laser light guide to 90 degrees. The laser was conducted by a red colored pilot laser focused on the capsule wall. Coagulation began at 6 o'clock at the bladder neck and photocoagulation was achieved by slowly rotating the cable tip of the laser towards 12 o'clock on the right side and on the left side. The apical area was treated last. Photocoagulation required 7,000-13,000 Joules and operation time was approx 30 min. No bleeding occurred during the procedure. One patient had urinary retention the day after laser treatment and required catheterization. No perforations, bleeding, or infections have been observed. Sexual function was not disturbed. TURP plus laser treatment is recommended for localized (T1 or T2) prostatic carcinoma, even in patients of advanced age and in the presence of concomitant disease. (4 Refs)

27. A PHASE II EVALUATION OF ADRIAMYCIN AND CIS-PLATINUM IN HORMONE RESISTANT PROSTATE CANCER.

Citrin DL, Hogan TF
Div. Oncology, Dept. Medicine, Albert Einstein Coll. Medicine, 1300 Morris Park Ave., Bronx, NY, 10461
Cancer; 50(2):201-206 1982

Twenty-five patients with metastatic prostate cancer were treated with a combination of Adriamycin 50 mg/m2 and cis-platinum (CDDP) 50 mg/m2 every 3 wk. Response was evaluated using radioisotope bone scan, serum acid phosphatase levels, and clinical status. Response rates of 6% bone, 21% acid phosphatase, and 24% clinical status were noted. Major toxicity was gastrointestinal (due to CDDP). Treatment was well tolerated even in patients with extensive bone metastases and prior irradiation. Using the response criteria described here, patients with metastatic prostate cancer without measurable soft tissue disease are eligible for Phase II and III study. (Author abstract) (24 Refs)

28. CISPLATIN, CYCLOPHOSPHAMIDE, AND PREDNISONE THERAPY FOR STAGE D PROSTATIC CANCER.

Berry J, MacDonald RN
Southern Alberta Cancer Center, Provincial Cancer Hospitals Board, 1331-29th St. NW, Calgary, Alberta, T2N 4N2, Canada
Cancer Treat Rep; 66(6):1403-1404 1982

Results of therapy consisting of cisplatin (CPT), cyclophosphamide (CP), and prednisone (PR) administered to 22 patients (51-80 yr old, median age 64 yr) with hormonally resistant Stage D prostatic cancer are discussed. Patients were given CP (150 mg/day) for 14 days po, CPT (50 mg/day) iv at day 8 and PR (5 mg) po tid, continuously throughout the 28-day cycle. Prior to and after hydration, steps were taken to minimize the risk of CPT-induced nephrotoxicity. Termination of the treatment occurred when objective progression of disease was evident after two full cycles of therapy. No objective or partial responses were documented in the 22 patients; 10 (45%) achieved stable disease status and 1 had subjective improvement despite progressive disease. The overall median survival was 9 mo; median survival was 10 mo in patients with stable disease and 5 mo in patients with disease progression. The median duration of response was 6 mo. No statistically significant difference in survival was demonstrated between responders and nonresponders. Three of five patients with measurable nodes had a greater than 50% reduction in their size but failed to have a corresponding decrease in acid phosphatase, and three had a return of alkaline phosphatase levels to normal.

The median number of cycles of therapy was four (range 1-14). Toxicity was within acceptable limits, considering the number of patients who had received prior irradiation and who had extensive bone marrow involvement. Only three patients experienced significant neutropenia with segmented neutrophil counts less than 1,000/cubic mm. (6 Refs)

29. PREVENTION OF PLATELET AGGREGATION IN PATIENTS WITH PROSTATIC CANCER DURING ESTROGEN THERAPY.

Koiso K, Akima H, Niijima T
7-3-1 Hongo, Bunkyo-ku, Tokyo 113, Japan
Urology; 19(6):579-583 1982

In prostatic cancer patients treated with synthetic estrogen, hexestrol, increased levels of platelet aggregation were observed in accordance with a significant decrease of platelet cyclic AMP. Dipyridamole, which is known to inhibit phosphodiesterase activity, was used to prevent this platelet aggregating effect of hexestrol. Inhibitory effect of dipyridamole on platelet aggregation was demonstrated in patients treated with hexestrol during 1 yr of observation. (Author abstract) (18 Refs)

30. RECENT PATTERNS OF CARE OF PROSTATE CANCER PATIENTS IN THE UNITED STATES: RESULTS FROM THE SURVEYS OF THE AMERICAN COLLEGE OF SURGEONS COMMISSION ON CANCER.

Mettlin C, Natarajan N, Murphy GP
Dept. Cancer Control and Epidemiology, Roswell Park Memorial Inst., Buffalo, NY, 14263
Int Adv Surg Oncol; 5:277-321 1982

Patterns of prostate cancer patient care were examined retrospectively using reports on 20,166 patients in a long term-survey and 14,079 patients in a short term-survey. The patient's ages at diagnosis were similar in both surveys. Blacks were diagnosed with more advanced disease in both surveys. The distribution of patients in the long- and short-term surveys by stage and substage is presented. More tumors were reported graded in the short-term series than in the long-term series. The biopsy techniques reported included transurethral resection of the prostate (TURP), needle aspiration biopsy, transrectal biopsy, and perineal biopsy. The principal laboratory studies conducted at diagnosis were alkaline phosphatase and serum acid phosphatase assays. Overall treatment patterns in the long-and short-term surveys are shown. Hormone therapy was the most often used treatment in the long-term survey, followed by TURP only. In the short-term survey, the use of hormone therapy decreased and employment of TURP or radiation treatment increased. Five-yr actuarial survival curves from the reports of the long-term survey were calculated for the age groups less than 50 yr, 50-59 yr, 60-69 yr, 70-79 yr, 80-89 yr, and 90+ yr. The survival of 50-59 yr and 60-69 yr age groups were similar and superior to other age groups. The survival of patients with prostatic cancer varied markedly by clinical stage and histologic differentiation of the tumor. (40 Refs)

31. THE GEOGRAPHICAL DISTRIBUTION OF HIGH CADMIUM CONCENTRATIONS IN THE ENVIRONMENT AND PROSTATE CANCER IN ALBERTA.

Bako G, Smith ES, Hanson J, Dewar R
Dept. Epidemiology, Provincial Cancer Hospitals Board, 11560 University Ave., Edmonton, Alberta T6J 1Z2, Canada
Can J Public Health; 73(2):92-94 1982

Cadmium concentrations were mapped for 982 samples of flowing fresh water, municipal waste water, soil, wheat and barley in Alberta. Incidence of prostate cancer per 100,000 individuals, was 35.6 for all urban communities. The rate was significantly lower (10.6) in the low-Cd community of Camrose, and significantly higher (53.2) in the high-Cd community of Medicine Hat. (10 Refs)

32. FACTORS ASSOCIATED WITH RACIAL DIFFERENCES IN SURVIVAL FOR PROSTATIC CARCINOMA.

Dayal HH, Chiu C
Fox Chase Cancer Center, Philadelphia, PA, 19111
J Chronic Dis; 35(7):553-560 1982

The role of race, age, extent of disease at diagnosis, histologic grade, and socioeconomic status in the prognosis of prostatic carcinoma was investigated in black and white patients. No significant differences in age between black and white patients were observed. However, 38.7% of black patients, compared to 16.2% of white patients, came from poor socioeconomic backgrounds. While the majority of patients of both races came from middle socioeconomic backgrounds, 3.8% of black patients and 26.3% of white patients came from high socioeconomic backgrounds. The two races had significant differences with respect to stage of disease at presentation. Blacks presented with distant metastases more frequently than did whites, and more black patients presented with poorly differentiated tumors (41.8% vs 30.1% in whites). Grade for grade, blacks presented with more advanced disease than did whites. White cancer patients had a higher probability of survival as compared to black patients at any time point. Age was a significant factor in survival, with older patients exhibiting poorer survival. These results suggest that the biology of prostatic cancer is probably the same for the two races. Blacks are disadvantaged in that their disease spread is greater at the time of diagnosis. Prognosis differential is probably due to environmental differences between the two races. (23 Refs)

33. CIRCADIAN AND DAY-TO-DAY VARIATION OF PROSTATIC ACID PHOSPHATASE.

Nissenkorn I, Mickey DD, Miller DB, Soloway MS
Dept. Urology, Univ. Tennessee Center Health Sciences, Memphis, TN
J Urol; 127(6):1122-1124 1982

The circadian and day-to-day variation of serum levels of prostatic acid phosphatase determined by radioimmunoassay was investigated in 10 men with a normal prostate, 8 with benign prostatic hyperplasia and 10 with prostate cancer. Serum samples were obtained on 1 day at 8 am, 12:00 noon and 4:30 pm in 23 patients, and on 3 consecutive days at 8 am in an additional 5 patients. There was a variability in enzyme level throughout the day but without any distinct pattern. Prostate cancer patients with elevated levels of prostatic acid phosphatase did demonstrate a greater variability throughout the day than patients with a normal prostate or with benign prostatic hyperplasia. The day-to-day serum prostatic acid

phosphatase in patients with a normal prostate varied little and remained within the normal range. (Author abstract) (10 Refs)

34. PROSTATIC ACID PHOSPHATASE AND PROSTATE-SPECIFIC ANTIGEN IN PROSTATE CANCER.

Kuriyama M, Loor R, Wang MC, Lee C, Killian CS, Papsidero LD, Inaji H, Nishiura T, Slack NH, Murphy GP, Chu TM
Dept. Urology, Gifu Univ. Sch. Medicine, 40 Tsukasa-Machi, Gifu-Shi 500, Japan
Int Adv Surg Oncol; 5:29-49 1982

Several immunological nonisotopic methods for the determination of prostatic acid phosphatase (PAP), as well as characterization and initial clinical evaluation of prostate antigen are described. Human prostate tissue (normal, benign hypertrophic, and cancerous) was obtained during autopsy or surgery. Pathology of each tissue was confirmed by histological examination. Results with counterimmunoelectrophoresis, densitometric, revealed that PAP levels were found in 38% (3/8) patients with Stage A, 56% (18/32) with Stage B, and 66% (21/33) with Stage C prostate cancer. One patient (4%, 1/26) with lung carcinoma and only one (9%, 1/11) of the two benign prostatic cancer patients, who had an elevated serum PAP, also registered an elevated serum PAP. PAP assay was performed also with solid-phase fluorescent immunoassay and immunoadsorbent assay and with enzyme-linked immunosorbent assay. An elevated PAP was found at the disease recurrence in three patients and at 2-7 mo preceding recurrence in other five patients. Data suggested that, in addition to detection and confirmation of prostate cancer, PAP was useful in early indication of disease recurrence and in monitoring the efficacy of therapy. In a group of 96 patients with metastatic prostate cancer who has failed to respond to previous hormonal therapy and were randomized into various chemotherapy protocols of the National Prostatic Cancer Project, serum PA levels prior to chemotherapy have been shown to be of prognostic significance in regard to survival time of these patients. The lower the PA level, the longer the patient survival regardless of treatment regimens. Since PA is a prostate-specific protein and is expressed by both primary and secondary prostate tumors, it may be a valuable indicator in assessing patient's survival. (48 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

35. CYTOREDUCTIVE SURGERY FOR ADVANCED NONSEMINOMATOUS GERM CELL TUMORS OF TESTIS.

Brenner J, Vugrin D, Whitmore WF
(c/o Vugrin), 1275 York Ave., New York, NY, 10021
Urology; 19(6):571-575 1982

Cytoreductive surgery increases the cure rate in selected patients with advanced nonseminomatous germ cell tumor receiving chemotherapy. Complete resection of residual malignancy is a prerequisite for improving long-term disease-free survival after chemotherapy. Complete resection of residual tumor after three to four inductions with an optimal chemotherapy regimen is the current recommendation. Progression of disease on chemotherapy represents a contraindication to cytoreductive surgery. Residual malignant tissue is found in up to one third of patients with clinical evidence of residual disease after chemotherapy and currently constitutes a current indication for further chemotherapy. Incomplete resection of malignant tissue and elevated tumor markers after surgery are poor prognostic signs. Elevated serum tumor marker levels after chemotherapy and prior to surgery represent a relative contraindication to surgery, and such patients should receive additional chemotherapy. (Author abstract) (30 Refs)

36. CYTOREDUCTIVE SURGERY FOR METASTATIC TESTIS CANCER: TISSUE ANALYSIS OF RETROPERITONEAL MASSES AFTER CHEMOTHERAPY.

Donohue JP, Roth LM, Zachary JM, Rowland RG, Einhorn LH, Williams SG
Dept. Urology, Indiana Univ. Sch. Medicine, Indianapolis, IN
J Urol; 127(6):1111-1114 1982

Survival of patients with massive retroperitoneal metastases from nonseminomatous germinal cell testis cancer has been enhanced dramatically by preoperative chemotherapy, consisting of platinum, vinblastine and bleomycin. Such chemical, systemic cytoreduction greatly reduces tumor bulk and facilitates retroperitoneal lymph node dissection. However, there are no reliable preoperative or intraoperative predictive criteria to indicate the precise nature of this residual tissue. Even gross morphologic examination is unreliable in ascertaining the presence or absence of persistent cancer in these tissues, which may assume a variety of gross appearances (cystic, solid, necrotic, fibrous and so forth). Retroperitoneal lymph node dissection was done in 51 patients with advanced retroperitoneal disease and/or pulmonary metastases for removal of persistent retroperitoneal mass lesions after three or four courses of platinum, vinblastine and bleomycin therapy. These specimens were analyzed for gross and microscopic features of hemorrhage, inflammation, calcification, fibrosis, necrosis, cystic changes, immature teratoma, mature teratoma and frank cancer (embryonal carcinoma, teratocarcinoma, choriocarcinoma and seminoma). All patients had a combination of several of these features in widely varying gross and regional distributions. Nineteen patients (37%) had some focus of persistent malignancy, often small and seemingly distributed at random in a variety of gross presentations. Furthermore, the site of malignancy often was not in the central largest mass, which usually had necrotic or cystic features. We conclude that mere gross examination and biopsy or removal of the central portion of a residual tumor is inadequate if persistent cancer is to be ruled out. Rather, as complete a dissection as possible is recommended for this purpose. Detailed analysis of gross and microscopic findings will be presented and correlated with clinical management. (Author abstract) (15 Refs)

37. COMPLICATIONS OF THORACOABDOMINAL RETROPERITONEAL LYMPH NODE DISSECTION.

Skinner DG, Melamud A, Lieskovsky G
Div. Urology, Univ. Southern California Sch. Medicine, Los Angeles, CA
J Urol; 127(6):1107-1110 1982

From January 1975 through May 1980, 149 consecutive patients underwent a thoracoabdominal approach to radical retroperitoneal lymph node dissection as part of the management for nonseminomatous germ cell tumors of the testis. Two patients died postoperatively, for an operative mortality rate of 1.3%. Both deaths occurred in patients with massive abdominal disease and were owing to hepatic failure, with the finding of progressive metastatic disease involving the porta hepatis, and not to any complication relating to the technical aspects of the

operation. There were no deaths encountered in 109 patients with Stages A and B disease. Over-all, there were 12 major (8%) and 7 minor (4.7%) complications among the 149 patients. Of the 12 major complications 9 occurred in 52 patients with Stages B3 and C disease, while only 3 of 97 patients who underwent a thoracoabdominal approach for early stage disease sustained a major complication (3.1%). The av hospital stay for the entire group of 149 patients was 11.2 days: 9.6 days for the 130 patients who did not have any complication, 13.9 days for the 7 with minor complications and 26.3 days for the 12 with major complications. These data indicate that thoracoabdominal radical retroperitoneal lymph node dissection is an extremely well tolerated procedure, with low morbidity and a high degree of effectiveness in controlling primary metastatic disease. Retroperitoneal recurrence has been noted in only 1 of the 149 patients (0.7%). (Author abstract) (14 Refs)

38. LYMPHADENECTOMY FOR TESTICULAR CARCINOMA.

Laplante MP, Mount BM
Div. Urology, Montreal General Hosp., 1650 Cedar Ave., Montreal, PQ H3G 1A4, Canada
Can J Surg; 25(3):262-266 1982

Since 50% of patients with testicular tumor have retroperitoneal metastases at the time of presentation, there has been little argument that the area of primary drainage requires further treatment following orchiectomy. Patients with nonseminomatous germ cell tumors in Stages A and B are candidates for retroperitoneal lymphadenectomy because this procedure is of therapeutic value and allows accurate staging of the disease. The development of extremely effective modern, cyclic, multidrug chemotherapy for extensive nonseminomatous testicular tumor has led to a rethinking of the role of lymphadenectomy in treating testicular cancer. Clinical staging is still not 100% accurate even with modern techniques. Lymphadenectomy, therefore, continues to be an important step in managing patients with nonseminomatous germ cell tumors. These facts are endorsed by the authors' review of 72 cases of nonseminomatous germ cell tumors managed at McGill University teaching hospitals over a 10-yr period. The authors also discuss the indications for retroperitoneal dissection. (Author abstract) (33 Refs)

39. PAPILLARY ADENOCARCINOMA OF THE RETE TESTIS. A CASE REPORT.

Fukunaga M, Aizawa S, Furusato M, Akasaka Y, Machida T
Dept. Pathology, Jikei Univ. Sch. Medicine, Minato-ku, Tokyo 105, Japan
Cancer; 50(1):134-138 1982

A papillary adenocarcinoma of the rete testis in a 67-yr-old man is presented. The tumor was localized in the rete testis, showing no involvement of the adjacent testicular parenchyma or the epididymis. The tumor cells manifested a transition to the normal epithelial cells of the rete testis. The electron microscopic features of this tumor are compared with those of the normal epithelial cells of the rete testis. (Author abstract) (10 Refs)

40. RHABDOMYOSARCOMA OF SPERMATIC CORD.

Sago AL, Novicki DE
Dept. Urology, Div. Surgery, Wilford Hall USAF Medical Center, Lackland Air Force Base, TX, 78236
Urology; 19(6):606-608 1982

Rhabdomyosarcoma is the most common malignant spermatic cord tumor. Thus far 162 cases have been reported. Herein, we present four additional cases, with a 5-yr survival rate of 75% using a multimodal treatment program. (Author abstract) (7 Refs)

41. CURRENT PROBLEMS IN CANCER: TESTICULAR CARCINOMA.

Paulson DF
Dept. Urologic Surgery, Duke Univ. Medical Center, Durham, NC
Curr Probl Cancer 6(11): 44 pp., 1982.

Testicular tumors, while rare (1% of all male cancers for an annual incidence of 2.3/100,000), are of major clinical significance since they occur in young men and are biologically aggressive. The various histologic patterns of testicular cancer are described. These include seminoma, embryonal carcinoma, teratoma, and choriocarcinoma. Classically the young male presents with a painless scrotal mass. Between 6 and 21% of patients with testicular tumors have an associated antecedent history of trauma. Trauma probably initiates self-examination and subsequent discovery of an otherwise occult mass. Male patients should be examined both erect and supine with special attention directed to scrotal contents. The differential diagnosis of the scrotal mass should include epididymitis, epididymo-orchitis, hydrocele, inguinal hernia, hematocele, hematoma, torsion, spermatocele, varicocele, and gumma. It is wise to consider malignancy where diagnosis is in question. Treatment selection, biological marker proteins, staging, and clinical management are discussed. (97 Refs)

42. PLACENTAL ALKALINE PHOSPHATASE AS A TUMOR MARKER FOR SEMINOMA.

Lange PH, Millan JL, Stigbrand T, Vessella RL, Ruoslahti E, Fishman WH
Dept. Urologic Surgery, Univ. Minnesota Health Sciences, Box 394, Mayo Memorial Building, Minneapolis, MN, 55455
Cancer Res; 42(8):3244-3247 1982

A sensitive and specific enzyme-linked immunoabsorbent assay was used in a retrospective study of serum levels of placental alkaline phosphatase (PLAP) in testicular cancer. Sixteen of 28 men with active seminoma had elevated PLAP levels, and 71% had elevated levels of either PLAP, human chorionic gonadotropin, or both. Only 4 of 22 men with active nonseminomatous cancer had elevated PLAP levels, and the levels were normal in all control patients, including 33 men apparently cured of testicular cancer. In 6 of 10 serial studies, PLAP levels provided information not otherwise available that would have been useful clinically, and the levels never were elevated inappropriately. Our data suggest that PLAP is a clinically useful serum tumor marker for seminoma. (Author abstract) (23 Refs)

TUMORS OF THE PENIS AND SCROTUM

43. MEGAVOLTAGE RADIATION THERAPY IN CARCINOMA OF THE PENIS.

Sharma U, Rath GK, Singhal RM, Sharma LK, Prakash A
Dept. Radiotherapy, All India Inst. Medical Sciences, New Delhi, India
Int Surg; 67(1):69-71 1982

The clinical profile of 84 cases of carcinoma of the penis are reviewed. A practical radiation technique for megavoltage

beam units is described. Complete ablation of the tumor in 18 of 20 (90%) patients in a radically irradiated group suggests a tumor ablation dose of 5,500r in 17 fractionation treatments. (Author abstract) (11 Refs)

44. BYPASS GRAFT FOR FEMORAL ARTERY INVOLVEMENT BY METASTATIC CARCINOMA OF THE PENIS.

Cockburn AG, Bains MS, Whitmore WF
Div. Urology, Columbia Univ. Harlem Hosp., 506 Lenox Ave., New York, NY, 10037
J Urol; 127(6):1191-1193 1982

We report a case of metastatic penile carcinoma deeply involving the inguinal lymph nodes and femoral vessels. Management by two-stage revascularization of the extremity with obturator bypass graft followed by wide groin dissection is described and alternative therapies are discussed. (Author abstract) (13 Refs)

OTHER SELECTED CLINICAL ASPECTS OF UROGENITAL TUMORS

45. PYELOSCOPY IN UROTHELIAL TUMORS.

Tomera KM, Leary FJ, Zincke H
Section Publications, Mayo Clinic, 200 First St., S.W., Rochester, MN, 55905
J Urol; 127(6):1088-1089 1982

Intraoperative pyeloscopy was performed on 18 consecutive patients with indeterminate pelvic or caliceal filling defects, subsequently proved to be transitional cell carcinomas. After nephroureterectomy local tumor recurrence in the region of the renal fossa developed in two patients. Intraoperative pyeloscopy entails significant risks and the seeding of transitional cell carcinoma is possible. (Author abstract) (8 Refs)

46. THE ROLE OF ACID AND ALKALINE DNASES AS TUMOUR MARKERS IN CANCER OF THE GENITOURINARY TRACT.

Lykourinas M, Constantinidis C, Spantidos A, Manthopoulos A, Dimopoulos C
Hellenic Anticancer Inst. 'Saint Savas', 14 Iaou St., Athens T.T. 140, Greece
Urol Res; 10(2):67-70 1982

Use of acid DNase and alkaline DNase as tumor markers in cancers of the genitourinary tract was investigated. Serum enzyme levels were measured in 109 patients with urological cancer (68 transitional cell carcinoma of the bladder, 18 prostatic cancer, 10 testicular tumors, 13 penile tumors), in 30 patients with nonmalignant tumors and inflammatory diseases of the urinary tract (papilloma, hypertrophy of the prostate, urethritis, cystitis, epididymo-orchitis, pyelonephritis), and in 38 healthy blood donors. The upper limit of normal was 400 units/ml for acid DNase and 200 units/ml for alkaline DNase. Increased levels of acid DNase were found in 62% of urological cancer patients; alkaline DNase was elevated in 43%. In patients with inflammatory diseases and nonmalignant tumors, elevated acid DNase was found in 30% and elevated alkaline DNase in 13%. In patients with bladder, prostate, or testicular carcinomas, elevated DNase activity was higher in advanced stages. In those with penile carcinoma, elevations in both DNases were seen more often in patients with low stage disease. Pretreatment levels of acid DNase in patients with penile carcinoma were elevated in 43%, during treatment in 49%, and posttreatment in 34%. Thus, estimation of DNase can be used as a cancer marker after careful exclusion of other conditions for monitoring the progress of individual patients. (6 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

47. DELIVERY OF ANTITUMOR DRUG TO BLADDER CANCER BY USE OF PHASE TRANSITION LIPOSOMES AND HYPERTHERMIA.

Tacker JR, Anderson RU
Santa Clara Valley Medical Center, 751 South Bascom Ave., San Jose, CA, 95128
J Urol; 127(6):1211-1214 1982

It has been proposed that liposomes (phospholipid bilayer vesicles) could be used to entrap enzymes or drugs and then be administered iv to patients as a natural molecule to be metabolized. After liposome degradation, the entrapped molecules would be released at higher concentrations in target tissues. In 1979, it was shown that liposomes containing a chemotherapeutic agent could preferentially release the agent at the transition temperature of the lipids. In an effort to deliver high dose methotrexate (MTX) to animal transitional cell carcinomas (TCC), we used liposomes with phase transition temperature a few degrees above 37 C. Experimentally induced bladder TCC tumors (induced with N-(4-(5-nitro-2-furyl)-2 thiazolyl)formamide) were transplanted into hind legs of C3H/Bi mice. These animals received tritiated MTX encapsulated in phase transition liposomes. Tumors were heated to 42 +-0.5 C (by ultrasound) before receiving the liposomes containing tritiated molecules of MTX. After an appropriate time sequence the tumors were removed and MTX uptake of each tumor was noted and compared to the controls having unheated tumors. Heated TCC tumors accumulated 11.9-fold more MTX than nonheated tumors receiving the same dose. Animals receiving free MTX did not exhibit a temperature dependent difference. This indicates that the phase transition temperature of specifically engineered liposomes may be used to increase delivery of high dose methotrexate to transitional cell carcinomas. (Author abstract) (19 Refs)

48. BLADDER RECONSTRUCTION IN RABBITS WITH GLUTARALDEHYDE-STABILIZED AMNIOTIC MEMBRANES.

Norris MA, Cohen MS, Warren MM, Becker SN, Baur PS, Seybold HM
(c/o Cohen) Div. Urology, Univ. Texas Medical Branch, Galveston, TX, 77550
Urology; 19(6):631-635 1982

Glutaraldehyde-treated human amniotic membranes were used to repair rabbit bladders after supratrigonal cystectomies. The membranes maintained the integrity of the bladders until healing and reepithlialization occurred. There was no significant loss of bladder capacity or decreased renal function postoperatively. Calcification did not occur on the membranes but was noted on chromic sutures retaining the membranes in 7 of 27 bladders. These findings suggest that glutaraldehyde-stabilized amnion is well tolerated by the urothelium and may serve

as a suitable material for replacement of genitourinary tissues. (Author abstract) (27 Refs)

49. BCG INDUCED MURINE PERITONEAL EXUDATE CELLS: CYTOTOXIC ACTIVITY AGAINST A SYNGENEIC BLADDER TUMOR CELL LINE.

Pang AS, Morales A
(c/o Morales) Dept. Urology, Queen's Univ., Kingston General Hosp., Kingston, Ontario K7L 2V7, Canada
J Urol; 127(6):1225-1229 1982

Peritoneal exudate cells from mice after intraperitoneal injection of 10 mg of BCG demonstrated cytolytic activity in vitro against the syngeneic bladder tumor cell line MBT-2. The cytolytic effector cells are nonadherent, nonphagocytic and trypsin resistant. Moreover these cells are cyclophosphamide and hydrocortisone sensitive. It is suggested that an NK-like cell constitutes the major, if not all the population of effector cells in this reaction. (Author abstract) (33 Refs)

50. MONOCLONAL ANTIBODIES TO HUMAN PROSTATE AND BLADDER TUMOR-ASSOCIATED ANTIGENS.

Starling JJ, Sieg SM, Beckett ML, Schellhammer PF, Ladaga LE, Wright GL
Dept. Biochemistry, Eastern Virginia Medical Sch., Norfolk, VA, 23501
Cancer Res; 42(8):3084-3089 1982

Monoclonal antibodies to human prostate adenocarcinoma membrane antigens were produced by fusion of P3X63/Ag8 mouse myeloma cells with spleen cells from BALB/c mice immunized against the prostate cancer cell line DU145. The hybrids were screened for antibody production using glutaraldehyde-fixed cells in a solid-phase radioimmunoassay. Antibody-binding specificity was also checked by quantitative adsorption, membrane immunofluorescence, and complement-dependent cytotoxicity assays. A hybridoma clone (83.21) was isolated that secreted antibodies which preferentially bound to several prostate and bladder cancer cell lines but did not bind to a variety of other normal and malignant human cell lines. This antibody also reacted with a cytomegalovirus-transformed human embryonic lung cell line but not to normal human embryonic lung cells. Quantitative adsorption studies demonstrated that the 83.21 monoclonal antibody was strongly reactive to membrane preparations from human prostate adenocarcinoma tissue and a liver metastasis of prostate carcinoma. Little or no binding activity was observed against two other prostate carcinomas, benign prostatic hyperplasia, normal prostate, or normal liver. Binding studies indicate that the 83.21 monoclonal antibody does not bind to alpha-fetoprotein, carcinoembryonic antigen, prostatic acid phosphatase, human leukocyte antigen, Beta2-microglobulin, HLA-Dr antigens, fibronectin, or prostate antigen. The data indicate that we have isolated a monoclonal antibody that binds to an antigen(s) expressed by several urogenital carcinoma cell lines as well as human prostate tumor tissue and that the antibody is not directed against well-known human tumor cell markers. (Author abstract) (37 Refs)

51. UNUSUAL ANDROGEN SENSITIVITY OF THE ANDROGEN-INDEPENDENT DUNNING R-3327-G RAT PROSTATIC ADENOCARCINOMA: ANDROGEN EFFECT ON TUMOR CELL LOSS.

Humphries JE, Isaacs JT
(c/o Isaacs), Johns Hopkins Oncology Center, Baltimore, MD, 21205
Cancer Res; 42(8):3148-3156 1982

Shessel et al have reported previously that the serially transplantable Dunning R-3327-G rat prostatic adenocarcinoma grows faster in intact vs castrated male rats. The present study has demonstrated that this is because the G tumor is composed of androgen-independent but -sensitive prostatic cancer cells. The conclusion that G tumor cells are androgen independent is based upon the observations that these cells are capable of growing following inoculation into castrated male rats and that castration of intact male rats bearing established G tumors induces neither regression of tumor volume nor cessation of the continuous growth of the tumor. The G tumor cells, while being androgen independent are, however, highly sensitive to androgen for their maximal rate of tumor growth. This androgen sensitivity is demonstrated by the fact that the G tumor cells can be reversibly shifted to a faster or slower growth rate simply by manipulation of the host androgen status. The androgen sensitivity of G tumor growth rate is unusual in that it is not due to androgenic stimulation of cell division but to androgen-induced inhibition of G tumor cell loss (ie, the rate of G tumor cell loss is reduced by over 50% when androgen is present). The androgen sensitivity of G tumor cell loss is also unusual in that, due to the low level of 5 alpha-reductase activity of the G tumor, the predominant intracellular androgen responsible for this inhibition is untreated intact hosts appears to be testosterone and not dihydrotestosterone (DHT). In castrated rats, however, exogenous treatment with DHT is equally as effective as exogenous testosterone in inhibiting G tumor cell loss. These results suggest that G tumor cells are sensitive to either testosterone or DHT but that in untreated intact hosts little DHT is formed by the tumor cells. (Author abstract) (15 Refs)

52. TREATMENT OF A METASTATIC PROSTATE DERIVED TUMOR WITH SURGERY AND CHEMOTHERAPY.

Kadmon D, Heston WD, Fair WR
Div. Urology, Washington Univ. Sch. Medicine, St. Louis, MO, 63110
J Urol; 127(6):1238-1242 1982

The R3327/MAT-Lu tumor is a metastasizing variant of the Dunning R3327 Copenhagen rat prostatic carcinoma which, when implanted sc in the flank or intramuscularly in the hind leg, invariably metastasizes to the lungs. We examined treatment with either single dose chemotherapy, surgical excision of the primary tumor, or a combination of tumor excision and postoperative single dose chemotherapy. All three regimens significantly reduced the number of lung metastases; however, only the combination of tumor excision, followed by postoperative chemotherapy substantially prolonged survival and produced cures. (Author abstract) (16 Refs)

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TUMORS OF THE KIDNEY (GENERAL)

1. CAVOGRAPHY AND CT FOR DEMONSTRATION OF CANALICULAR SPREAD OF RENAL NEOPLASMS INTO THE INFERIOR VENA CAVA.

Probst P, Kruker T, Hoogewoud HM
Institut fur Diagnostisches Radiologie, Universitat Bern, Inselspital, CH-3010 Bern, Switzerland
Radiologe; 22(6):272-278 1982

The results of cavography (CG) and computed tomography (CT) for diagnosis of infiltration of the vena cava in patients with malignant renal tumors were compared in two collectives. Results of cavography were analyzed retrospectively in 47 patients (30 males and 17 females, 4-78 yr old, av 60 yr old). Results of CT were analyzed prospectively in 45 patients (24 males and 21 females, 12-78 yr old, av 55.9 yr old). CG involved injection of sodium amidotrizoat into the vena cava. CT was performed using a section thickness of 8 mm in the renal area and 16 mm for the remaining abdominal area. Extension of tumor into the inferior vena cava was confirmed operatively in 8/47 patients undergoing CG. Seven patients showed form-constant intraluminal filling defects of various sizes in

CG. Direct infiltration of the wall of the vena cava was indicated by compression of the vena cava with irregular contours. Extension of the tumor into the lumen alone was indicated by an obstruction with smooth borders. Involvement of the vena cava was confirmed operatively in six patients undergoing CT. Correct positive results were obtained in eight patients by CG and five by CT; correct negative findings were obtained in 38 patients by CG and 38 by CT. One false positive result was obtained with each method. One false negative was obtained by CT. CT was superior to CG in detecting pathologic lymph node involvement; 10% of pathologic nodes involved inflammatory hyperplasia without metastasis. Because of the possibility of false positive results with CT, ambiguous CT findings should be clarified by cavography. (24 Refs) (In GER)

2. RENAL SCANNING PITFALLS IN THE DIAGNOSIS OF MASS LESIONS.

Webber MM, Cochran ST, Mitchell L
Dept. Radiological Sciences, Univ. California Los Angeles Sch. Medicine, Center Health Sciences, Los Angeles, CA, 90024
Clin Nucl Med; 7(7):327-330 1982

Renal scanning with Tc-99 DMSA has been reported to be an accurate method for distinguishing renal masses from normal variations. Two cases of error in diagnosis have come to our attention. The possible sources of error are discussed. (Author abstract) (4 Refs)

3. IS LYMPHADENECTOMY A VALUABLE ADJUNCT TO RADICAL NEPHRECTOMY IN KIDNEY CANCER MANAGEMENT?.

Gilloz A, Tostain J, Rusch P
Service d'Urologie, Hopital Bellevue, boulevard Pasteur, 42100 Saint-Etienne, France
Ann Urol (Paris); 16(4):207-210 1982

Radical nephrectomy was performed in 145 patients with renal cell carcinomas. Two partial nephrectomies and 143 wide nephrectomies were performed with 40 lymph node dissections (LND). A total of 89 patients have died (9 of another pathology) and 1/56 surviving patients has recurrent metastases. Of 24 Stage I patients without LND, 2 died, and of 10 with LND, 1 died. LND was considered superfluous in Stage 1 disease where the cancer was strictly intrarenal. Of 13 Stage II patients without LND, 1 died, and of 12 with LND, none died. Although only 25 patients were in the Stage II group, improved prognosis was observed with LND. Of 15 Stage III patients without LND, 2 died, and of 13 with LND, none died. For Stage IV patients with metastases, there was no difference in results with and without LND. Based on the above results, it is suggested that Stage II and III patients have a better prognosis with a statistically significant difference when managed with complementary LND. (8 Refs) (In FRE)

4. BONE METASTASES FROM RENAL CARCINOMA. THE PREOPERATIVE USE OF TRANSCATHETER ARTERIAL OCCLUSION.

Bowers TA, Murray JA, Charnsangavej C, Soo CS, Chuang VP, Wallace S
(c/o Chuang) Dept. Diagnostic Radiology, Univ. Texas Cancer Center, M. D. Anderson Hosp. and Tumor Inst., Houston, TX
J Bone Joint Surg [Am]; 64(5):749-754 1982

Surgical treatment of hypervascular bone lesions can result in excessive operative blood loss. We reviewed the cases of eight patients who were operated on for hypervascular bone metastases from renal carcinoma after preoperative transcatheter embolization. The embolization was successful in six of these patients and their operative blood loss averaged only 550 milliliters (range, 450 to 750 milliliters). The reasons for failure in two patients were failure to recognize and embolize all major vessels supplying the tumor in the first and the presence of too many small vessels arising directly from the superficial femoral artery to embolize safely in the second. When surgical treatment of hypervascular bone metastases is indicated, consideration should be given to preoperative arterial embolization. (Author abstract) (14 Refs)

5. AUGMENTATION OF NATURAL KILLER CELL ACTIVITY AFTER ARTERIAL EMBOLIZATION OF RENAL CARCINOMAS.

Bakke A, Gothlin JH, Haukaas SA, Kalland T
Dept. Anatomy, Univ. Lund, Biskopsgaten 7, S-223 62 Lund, Sweden
Cancer Res; 42(9):3880-3883 1982

Preoperative embolization of the renal artery has been reported to improve the survival of patients with advanced renal carcinomas compared to operative treatment only. To investigate possible immunological consequences of tumor embolization, natural killer (NK) cell activity in peripheral blood was investigated immediately before and at different time intervals after occlusion of the renal artery by insertion of a metal coil. A slight increase in NK activity could be observed 24 hr postembolization while a marked augmentation was seen after 48 hr. The high NK activity persisted up to 96 hr after embolization, the last time period included in the study. Two patients undergoing the same procedure but in whom embolization was unsuccessful showed no alteration in NK activity. It is suggested that interferon produced by macrophages activated by the necrotizing tumor might be responsible for the augmentation of NK activity. (Author abstract) (31 Refs)

TUMORS OF THE RENAL PELVIS AND URETER

6. INFLAMMATORY POLYP OF THE RENAL PELVIS SIMULATING TRANSITIONAL CELL CARCINOMA.

Reuter KL, Krolikowski FJ, D'Orsi CJ, Yu D, Raptopoulos VD
Dept. Radiology, Univ. Massachusetts Medical Center, 55 Lake Ave. North, Worcester, MA, 01605
Radiology; 144(3):505-506 1982

An inflammatory polyp of the renal pelvis that caused a mass effect at excretory urography simulated transitional cell carcinoma. In the differential diagnoses of intracalyceal masses, therefore, inflammatory polyp must be considered. (Author abstract) (6 Refs)

TUMORS OF THE URINARY BLADDER AND URETHRA

7. DETECTION AND FOLLOW-UP OF CARCINOMA OF THE URINARY BLADDER BY FLOW CYTOMETRY.

Klein FA, Herr HW, Sogani PC, Whitmore WF, Melamed MR
Dept. Urology, Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 50(3):389-395 1982

Automated flow cytometry (FCM) has been used to study saline bladder irrigation specimens from nearly 400 patients at Memorial Sloan-Kettering Cancer Center during the 2-year period March 1979-March 1981. These include 36 patients with papilloma, 35 with noninvasive papillary transitional cell carcinoma, 71 with flat carcinoma in situ, and 52 with invasive carcinoma of the bladder, as well as 110 well patients with a history of low-stage bladder tumors (98 had two or more examinations) and 100 patients without neoplastic disease of the bladder. The false-positive rate for patients with normal bladders or non-neoplastic bladder diseases was 2% (2 patients); both had severe cystitis and bladder calculi. The false-negative rate for the group with histologically proven tumors was 18%; excluding papilloma it was 7%. A FCM diagnosis of bladder tumor antedated the development of cystoscopically visible tumor by up to 12 months in 18 patients. Fourteen additional patients have positive FCM at present with or without positive conventional cytology and continue to be followed. These data suggest that FCM can provide an objective quantitative measure of the exfoliated epithelial cells in bladder irrigation specimens, and is at least as sensitive and specific as conventional urine cytology for the detection of cancer cells. An interpretation of each specimen is recorded on a computer-generated hard copy replica of the two-dimensional scattergrams, or pseudo-three-dimensional projection of the data and used by the clinician as a permanent report of that specimen. FCM has a practical application in the detection and diagnosis of bladder carcinoma among subjects at high risk, and is of value in monitoring the course of this disease and anticipating recurrence following conservative treatment. (Author abstract) (14 Refs)

8. CLINICOPATHOLOGICAL STUDIES OF NON-PAPILLARY URINARY BLADDER CARCINOMA IN SITU AND ITS BORDERLINE LESIONS.

Fukui I
Dept. Urology, Tokyo Medical and Dental Univ. Sch. Medicine, Tokyo, Japan
Nippon Hinyokika Gakkai Zasshi; 73(2):155-168 1982

Histological features of nonpapillary urinary bladder carcinoma in situ and its borderline lesions and clinical symptoms of the cancer were studied in 25 patients (19 men, 6 women; 38-76 yr old). The patients included 6 with carcinoma in situ, 3 with severe epithelial atypia, and 16 with microinvasive cancer. Clinical symptoms (eg, urinary frequency + dysuria, urinary frequency + dysuria + hematuria, and asymptomatic hematuria) and endoscopic findings (eg, inflammatory changes and tumor proliferation) were not useful in diagnosing nonpapillary bladder carcinoma in situ or its borderline lesions since the findings for these lesions were similar to those for acute or chronic cystitis; urinary cytology was the most useful method of diagnosis. The cytology showed a characteristic appearance of the lesion, and sparse exfoliation of malignant cells. Accurate histologic diagnosis was best performed by multiple mucosal biopsies, using methylene blue vital staining. With respect to the course of the disease, microinvasive cancer was observed within 6-72 mo in 4/5 patients with the carcinoma in situ and 2/3 with the severe epithelial atypia. Because conservative surgical treatment is not effective against microinvasive cancer, this stage in nonpapillary bladder carcinoma should be differentiated from carcinoma in situ and from severe epithelial atypia and should be treated as a deeply invasive cancer. (27 Refs) (In JPN)

9. THE ORIGIN OF INVASIVE CARCINOMA OF THE BLADDER.

Brawn PN
Dept. Surgical Pathology, Wesley Medical Center, Wichita, KS, 67214
Cancer; 50(3):515-519 1982

One-hundred and four consecutive cases of invasive bladder carcinoma were studied. Twenty of the 104 cases had a history of papillary neoplasms of the bladder while the remaining 84 cases did not. Further, 22 of the 104 cases had cystoscopies, mo to yr prior to the diagnosis of invasive bladder carcinoma, which documented the absence of previous papillary neoplasms of the bladder. Therefore, this study suggests that papillary neoplasms of the bladder may not be the most common precursor of invasive bladder carcinoma. Consequently, vigorously attacking the highly visible papillary neoplasms of the bladder may not be as fruitful in preventing invasive bladder carcinoma as attempting to identify the presence of other less visible nonpapillary lesions which may be the most frequent precursors of invasive bladder carcinoma. (Author abstract) (6 Refs)

10. IMMUNOLOGICAL REACTIVITY IN CARCINOMA IN SITU OF THE BLADDER.

Hudemann B, Riedel H, Seyfarth M, Werner H, Erdmann T
Urologische Klinik, Wilhelm-Pieck-Universitat Rostock, Ernst-Heydemann-Strasse, DDR-2500 Rostock, E. Germany
Z Urol Nephrol; 75(4):253-257 1982

In vitro and in vivo immunological reactivities were studied in 13 patients with carcinoma in situ (CIS) of the bladder and in 29 controls. The patients with CIS did not differ from the controls in skin tests using five recall antigens and the primary antigen dinitrofluorobenzene. In electrophoretic tests, 11/13 CIS patients showed a slowing of lymphocyte mobility when the cells were incubated with bladder tumor-associated antigen; 10/13 showed a similar slowing of lymphocyte mobility when human encephalitogenic protein was used as the antigen. The findings suggested that CIS is the first stage in malignant degeneration. (14 Refs) (In GER)

11. INCREASE OF THE IN VITRO COMPLEMENT-DEPENDENT CYTOTOXICITY AGAINST AUTOLOGOUS INVASIVE HUMAN BLADDER TUMOR CELLS BY NEURAMINIDASE TREATMENT.

Jacobsen F
Univ. Inst. Pathology, Aarhus Amtssygehus, DK-8000 Aarhus C, Denmark
Acta Pathol Microbiol Immunol Scand [C]; 90(3):187-192 1982

Complement-dependent cytotoxicity (CDC) was measured in a 51-Cr release assay against tumor cells from 13 non-invasive and 7 invasive transitional-cell tumors of the urinary bladder. CDC was compared between mechanically dispersed tumor cells and neuraminidase-treated tumor cells. Neuraminidase treatment of bladder tumor cells enhanced their susceptibility to complement-dependent cytolysis. There were no differences in CDC between autologous and allogenic sera. Mechanically dispersed tumor cells showed no significant differences in susceptibility when non-invasive and invasive tumor cells were

compared, whereas significant differences in CDC were seen when neuraminidase-treated non-invasive and invasive tumor cells were used as targets. A C2 deficient serum showed significantly reduced cytotoxicity suggesting that the CDC reaction requires classical complement activation. A hypogammaglobulinemic serum showed stronger CDC compared to autologous and other allogenic sera and upon dilution of autologous sera and hypogammaglobulinemic serum CDC declined parallelly. (Author abstract) (22 Refs)

TUMORS OF THE PROSTATE GLAND AND SEMINAL VESICLE

12. INCIDENTAL PROSTATIC CARCINOMA: TUMOR EXTENT VERSUS HISTOLOGIC GRADE.

Guileyardo JM, Sarma DP, Johnson WD, Akazaki K, Correa P
Lab. Service, Veterans Admin. Medical Center, 1601 Perdido St., New Orleans, LA, 70146
Urology; 20(1):40-42 1982

One hundred forty-three incidental carcinomas from 500 step-sectioned prostates were classified independently by two pathologists according to the Gleason system. The area involved by each tumor was measured by photographic techniques. Observer agreement was 94% when tumors were divided into groups with 'pattern scores' four or less (less than or equal to 4) and greater than four (greater than 4). About 25% of tumors in both races had pattern scores less than or equal to 4. Tumors with pattern scores greater than 4 were, on the av, significantly larger than those with pattern scores less than or equal to 4 (p less than 0.001). We therefore believe that the Gleason histologic classification system is reproducible and that it discriminates tumors with different biologic behavior. (Author abstract) (6 Refs)

13. COMBINED HISTOLOGIC GRADING OF PROSTATIC CARCINOMA.

Bocking A, Kiehn J, Heinzel-Wach M
Pathologisches Institut der Universitat, Alberstrasse 19, D-7800 Freiburg, W. Germany
Cancer; 50(2):288-294 1982

A new histologic grading system for prostatic adenocarcinomas is presented, and its clinical significance tested. Histologic growth patterns and nuclear anaplasia found therein are evaluated independently of each other. The diagnostic categories are in accordance with the histologic classification recently published by the WHO. The tumor is denominated according to the least differentiated fraction. Three grades of malignancy, which correspond to significantly different survival probabilities, are distinguished. The prognosis of Grade I patients is not reduced in comparison to that of healthy males of the same age. Grade I patients did not reveal metastases. The rate of tumor-specific deaths increases with the malignancy grade of the tumor. Interobserver reproducibility of this grading is found to be 91%. With the 5% undergradings, the representativity is found to be satisfactory. Prostatic carcinomas tend to change their malignancy grades in time. The question of whether Grade I prostatic carcinoma patients with early clinical stages benefit from therapy is discussed. (Author abstract) (40 Refs)

14. RISK FACTORS FOR THE DEVELOPMENT OF DISTANT METASTASES IN PATIENTS UNDERGOING PELVIC LYMPHADENECTOMY FOR PROSTATIC CANCER.

Schmidt JD, McLaughlin AP, Saltzstein SL, Garcia-Reyes R
Div. Urology, Sch. Medicine, Univ. California, San Diego, La Jolla, CA, 92093
Am J Surg; 144(1):131-135 1982

Sixty-two patients with clinically localized prostatic cancer underwent pelvic lymphadenectomy between 1972 and 1975. Thirty-one patients had concomitant total prostatectomy. The objectives of this study included determination of the relation of findings at lymphadenectomy, with and without total prostatectomy, to subsequent clinical course, identification of histologic parameters related to the subsequent appearance of distant metastatic disease, and determination of the vital status of patients initially having a staging pelvic lymphadenectomy. Follow-up of at least 5 yr was obtained for 52 patients, including 28 who had concomitant total prostatectomy. Ten patients were lost to follow-up. Fifty-four percent are alive without evidence of disease, 25% are alive with metastatic disease, 10% have died with metastatic cancer, and 12% have died without prostate cancer. Metastases have developed in 11 (37%) of 30 patients with negative pelvic lymph nodes, reflecting either seminal vesicle or transcapsular invasion. Minimal lymph node involvement (1 or 2 pelvic nodes) alone may not be as poor a prognostic sign as originally thought. Metastases have developed in 22% of nine patients with tumor considered stage B2. No recurrences or metastases were noted in the seven patients with stage B1 disease. Patients with high grade lesions were at no increased risk for distant metastases, although they constituted a relatively small segment of our series. Thus the extent of local disease correlates with the subsequent development of distant metastasis. Adjuvant systemic treatment (endocrine manipulation, chemotherapy, or both) has a rational basis in patients with one or more of these identifiable risk factors. (Author abstract) (18 Refs)

15. EFFECT OF DIET ON PLASMA AND URINARY HORMONES IN SOUTH AFRICAN BLACK MEN WITH PROSTATIC CANCER.

Hill P, Wynder EL, Garbaczewski L, Walker AR
Dept. Surgery, Medical Sch., Univ. Cape Town, Observatory 7925, Cape Town, South Africa
Cancer Res; 42(9):3864-3869 1982

Epidemiological evidence suggests that the incidence and death rate from prostatic cancer, an endocrine-associated disease, are related to environmental factors including diet. In this study, a comparison of serum and urinary levels of steroid hormones was carried out in healthy, elderly, rural South African black men on a vegetarian diet (a low-risk population), and a comparable group of men with prostatic cancer. In these prostatic cancer patients, plasma androgen levels decreased, while estrogen levels increased. Concomitantly, the androsterone:etiocholanolone ratio increased, and a greater proportion of estrogens was excreted as estriol. When transferred to a Western diet, plasma androgens showed a further decrease and a greater increase in estrone in prostatic cancer patients. In prostatic cancer patients, the total urinary androgen and estrogen levels were unaltered. However, in elderly healthy men, the Western diet decreased the excretion of estrogens and androgens. Thus, a Western diet supplemented the decrease in plasma androgens initially present in these patients. Evidence suggests that the decrease in plasma androgens increases the estrogen:androgen ratio, which may lead to hyper-

plasia of the prostatic ductal epithelia, a change enhanced by a Western diet. Changes in urinary steroid hormone levels in South African black patients comparable to those reported in white prostatic cancer patients indicate that hormonal changes must be related to several environmental factors, apart from diet. A simultaneous study of the steroid hormone composition of blood and prostatic fluid in this low-risk population is suggested. (Author abstract) (54 Refs)

16. PROSTATE-SPECIFIC ACID PHOSPHATASE VERSUS ACID PHOSPHATASE IN MONITORING PATIENTS WITH PROSTATE CANCER.

Killian CS, Vargas FP, Slack NH, Murphy GP, Chu TM, Romas NA, Bruce AW
Roswell Park Memorial Inst., Buffalo, NY, 14263
Ann NY Acad Sci; 390:122-132 1982

The prostate-specific acid phosphatase (PAP) immunoassay was compared with the acid phosphatase (AcP) chemical assay in monitoring 57 patients with early and 33 with advanced prostate cancer. Patients were compared with respect to detection of confirmed disease recurrence from the time of definitive therapy or the development of disease progression, the potential prognostic value of mean level of serial PAP and AcP activities, and responsiveness of the assay to the objective clinical status during therapy. Elevated PAP activity generally preceded the elevation of AcP activity and represented a more sensitive parameter for disease recurrence and progression in both groups of patients. Serial mean levels of PAP activity greater than the mean + three standard deviations were more predictive for disease recurrence and progression than those of AcP activity in both groups of patients. PAP was a more sensitive monitor for changes in objective treatment response than was AcP activity. PAP was more specific for prostate tissue than AcP, thereby offering a reliable marker for identifying metastases of unknown origin or confirming metastases derived from a primary prostate tumor. While these results suggest that the PAP immunoassay is superior to the AcP assay, the reliability of PAP activity to accurately follow the clinical disease status remains to be established. (20 Refs)

17. IMMUNOHISTOCHEMISTRY OF PROSTATIC ACID PHOSPHATASE.

Nadji M, Morales AR, Bruce AW, Romas NA, Shevchuk M
Dept. Pathology, Univ. Miami, Jackson Memorial Medical Center, Miami, FL, 33101
Ann NY Acad Sci; 390:133-141 1982

The use of the immunoperoxidase reaction for prostate specific acid phosphatase (PSAP) as a practical, sensitive, and specific test for evaluating the possible prostatic origin of otherwise unclassifiable primary or metastatic tumors is reported. Any positive staining should be regarded as evidence for prostatic origin of a given tumor. By pooling several monoclonal antibodies raised against different antigenic determinants of prostatic acid phosphatase, the sensitivity of the reaction can be enhanced. In sections of normal and hyperplastic prostate glands, only the epithelium of prostatic acinar glands and ducts and prostatic secretions and concretions stained positively for PSAP. Positive results may also be seen in the prostate glands of fetuses on the luminal border of a few glandular cells. Compared with positive staining observed in greater than 250 cases of known primary or metastatic prostatic carcinomas, none of the greater than 120 cases of nonprostatic malignancies demonstrated immunohistochemical staining for PSAP. The intensity of the reaction may vary considerably from cell to cell, area to area, and from primary to metastatic tumor in the same patient. All primary and metastatic prostatic malignancies reacted positively to a human prostate-specific antigen, while nonprostatic neoplasms did not. Before the immunoperoxidase reaction for PSAP is used for diagnostic purposes, the specificity of antibody and sensitivity of the technique should be well defined. (18 Refs)

18. THE PROSTATE CELL AS A SECRETORY FACTORY OF ACID PHOSPHATASE.

Tannenbaum M
Dept. Pathology, Div. Uropathology, Columbia Univ. Coll. Physicians and Surgeons, New York, NY, 10032
Ann NY Acad Sci; 390:142-145 1982

Clinical stages of prostate cancer (PC) and secretion of acid phosphatase (AcP) are described. Carcinomas of the prostate are grouped into four clinical stages. Stage I are usually latent with a microscopic focal lesion within the prostate and are not usually associated with an increase in serum prostatic AcP. Stage II PC involves a nodule confined to the prostate gland and is not usually associated with an elevation in serum prostatic AcP. Stage III PC usually exhibits invasion of an adjacent organ, there may be mixtures of various grades of malignancy, and may be associated with elevations in prostatic AcP. Stage IV PC exhibits further metastasis to regional and distant lymph nodes and other organs, and prostatic AcP is usually elevated. Normal prostate cells undergo an orderly process of secretory product synthesis and the products accumulate in the apical pole of the acinus for final extrusion into the secretory duct system. In cancer cells, loss of organelle polarization reflects impairment of the orderly secretory process. Excessive cellular proliferation in neoplastic acini and small ducts leads to compression of the lumina, which eventually becomes obliterated. As the cells increase in number, contact with the lumen and the apparent stimulus for an orderly arrangement of cell organelles are lost. The Golgi apparatus become randomly scattered throughout the entire cytoplasm. In histological Grade IV PC, the secretory vacuoles of carcinoma cells probably empty into the surrounding space, explaining elevated levels of prostatic AcP in serum when the tumor is invasive and metastatic. (10 Refs)

19. MONOCLONAL ANTIBODIES TO A HUMAN PROSTATE ANTIGEN.

Frankel AE, Rouse RV, Wang MC, Chu TM, Herzenberg LA
Cetus Immune Corporation, 3400 West Bayshore Drive, Palo Alto, CA, 94305
Cancer Res; 42(9):3714-3718 1982

Three monoclonal antibodies reactive with a purified extractable Mr 34,000 prostate antigen (PA) have been prepared by fusing splenocytes of BALB/c mice preimmunized with purified PA with the NS1 mouse myeloma cell line. The three antibodies were all of the IgG-1 subclass. The antibodies defined two noncross-blocking unique determinants on PA; each present as one site per molecule. 1F3 defined on antigenic site and 2G7 and 1C5 defined another antigenic determinant. All of the antibodies reacted with PA in a solid-phase radioimmunoassay and immunoprecipitated 125I-labeled PA. Absorption and sandwich radioimmunoassays showed PA in prostate tissues but not in tonsil, liver, or kidney. Immunoperoxidase staining of formalin-fixed paraffin-embedded sections of benign prostatic hyperplasia and prostatic carcinoma revealed strong prostate epithelial reactivity. None of the antibodies showed reactivity with prostate membrane preparations. A sandwich radioimmunoassay used 2G7 as a plate coat. 125I-labeled 1F3

was used to detect 5 ng PA per ml in sera of patients with prostate cancer. These results confirm previous observations regarding the specificity of PA and shed new evidence for its intracellular localization. (Author abstract) (17 Refs)

TUMORS OF THE TESTIS, EPIDIDYMUS, AND SPERMATIC CORD

20. CT ESTIMATIONS OF MEAN ATTENUATION VALUES AND VOLUMME IN TESTICULAR TUMORS: A COMPARISON WITH SURGICAL AND HISTOLOGIC FINDINGS.

Husband JE, Hawkes DJ, Peckham MJ
CT Scanning Unit, Royal Marsden Hosp., Downs Road, Sutton, Surrey SM2 5PT, England
Radiology; 144(3):553-558 1982

Lymphadenectomy was carried out in 40 patients with retroperitoneal nodal metastases from testicular tumors who had undergone chemotherapy with or without radiation therapy. Two other patients, who died of their disease during chemotherapy, were included in the study. The postoperative or postmortem histologic results were compared with the mean tumor attenuation value and tumor volume calculated from computed tomographic (CT) examinations. There was good separation between changes in CT numbers for those masses with persistent active malignancy (37.7 +-4.8 HU) and those masses with no evidence of malignancy (18.7 +-7.8 HU). Serum markers were elevated at the time of surgery in only two of the seven patients with active malignancy. There was no correlation between volume and malignancy or nonmalignancy for tumors greater than 20 ml; tumors less than 20 ml showed no evidence of malignancy. It is proposed that the mean CT number may be the most important parameter for measuring the therapeutic response of abdominal metastases from testicular tumors larger than 20 ml. (Author abstract) (9 Refs)

21. ADVANCED EXTRAGONADAL GERM-CELL TUMORS. SUCCESSFUL TREATMENT WITH COMBINATION CHEMOTHERAPY.

Hainsworth JD, Einhorn LH, Williams SD, Stewart M, Greco FA
Div. Oncology, Dept. Medicine, Vanderbilt Univ. Hosp., Nashville, TN, 37232
Ann Intern Med; 97(1):7-11 1982

Thirty-two patients with primary extragonadal germ-cell tumors were treated at Vanderbilt and Indiana University hospitals during the period from 1976 to 1981. Thirty-one patients had far-advanced disease when treatment was begun. All patients received intensive cisplatin-containing combination chemotherapy regimens. Tumors remaining after chemotherapy were surgically removed when feasible. Of the 31 evaluable patients, 18 have been continuously disease-free after therapy, 21 patients had a complete remission; the remaining 10 had partial response. Eighty-nine percent of patients with complete remission remain free of disease after median follow-up of 30 months. No relapses occurred after 12 months of complete remission. Patients with partial response had a median survival of 9 months with no long-term survivors. Response rates and survival are similar to patients with advanced-stage testicular germ-cell tumors. Extragonadal germ-cell tumors are as curable as testicular germ-cell tumors when treated with intensive cisplatin-containing combination chemotherapy regimens, and surgical resection when necessary. (Author abstract) (22 Refs)

22. AUTOPSY FINDINGS IN 154 PATIENTS WITH GERM CELL TUMORS OF THE TESTIS.

Bredael JJ, Vugrin D, Whitmore WF
(c/o Vugrin), Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY, 10021
Cancer; 50(3):548-551 1982

Autopsy findings are reviewed in 154 patients treated for germ cell tumors of the testis. Of the patients with apparently pure seminoma, 44% had autopsy evidence of nonseminomatous metastases. For all tumor types, the most common sites of distant metastasis were lung (89%), liver (73%), brain (31%), and bone (30%). There was a high incidence of brain metastases in choriocarcinoma and of bone metastases in seminoma. Brain, liver, and bone metastases were late occurrences in the course of the disease and were almost always associated with involvement of other sites. Recurrences in the retroperitoneal area after lymph node dissection occurred mainly in those who had had retroperitoneal lymph node metastases. No difference in site or frequency of metastases was apparent in autopsied patients treated before or after introduction of platinum containing regimens. Respiratory failure, secondary to lung metastases, was the most common cause of death. Of the autopsied patients, 6% died of iatrogenic causes. (Author abstract) (8 Refs)

23. RECOVERY FROM ASPERMIA INDUCED BY LOW-DOSE RADIATION IN SEMINOMA PATIENTS.

Hahn EW, Feingold SM, Simpson L, Batata M
Dept. Radiotherapy, Mount Sinai Medical Center, 1184 Fifth Ave., New York, NY, 10029
Cancer; 50(2):337-340 1982

Gonadal dosimetry and spermatogenic activity was monitored in patients given radiation therapy (RT) after unilateral orchiectomy for seminoma. The RT given was, with minor variations, 3,200 rad in 16 fractions in 4 wk to the para-aortic and ipsilateral pelvic inguinal lymphatics in order to include the orchiectomy scar. The incidental amount of radiation to the remaining testicle averaged 78.4 +-7.4 rad and ranged from 32-178 rad as determined by thermoluminescent dosimetry. Induction of aspermia was documented in 10 out of 14 patients who received over 65 rad to the gonad. At lower doses, aspermia may not have occurred or was of short duration. Recovery of sperm in the semen occurred in 12 patients within 30-80 wk after start of treatment. The data suggest that the time of recovery may be dose dependent within the range of 19-148 rad. During the period of recovery, patients with oligospermic semen may be fertile and should be so advised. (Author abstract) (8 Refs)

TUMORS OF THE PENIS AND SCROTUM

24. SCROTAL CARCINOMA IN CONNECTICUT METAL WORKERS. SEQUEL TO A STUDY OF SINONASAL CANCER.

Roush GC, Kelly JA, Meigs JW, Flannery JT
Connecticut Cancer Epidemiology Unit, Yale Univ., 60 College St., New Haven, CT, 06510
Am J Epidemiol; 116(1):76-85 1982

An excess risk for sinonasal cancer among Connecticut metalworkers with potential exposure to cutting oils led to the hypothesis of a relationship between the same occupational category and squamous cell carcinoma of the scrotum. Cases of

this latter tumor (n = 45) diagnosed in 1935-1973 were identified by the Connecticut Tumor Registry. For decedents, male controls from Connecticut death certificates were matched to decedent cases on age, yr of birth, and availability of occupational information; for living subjects, male controls from records of the Connecticut Department of Motor Vehicles were matched on the above variables and town of residence. Death certificates and city directories provided occupational information. For the narrowly defined indicator of cutting oil exposure (toolmaker, setter, set-up man, hardener, polisher, automatic screw machine operator), the odds ratio for squamous cell carcinoma of the scrotum was 4.9, 95% confidence limits (CL): 1.8, 15.9. The broad indicator of cutting oil exposure (the aforementioned categories plus machinist and machine operator (not otherwise specified)) had an odds ratio of 10.5, 95% CL: 4.0, 36.9 and explained 57% of the cancers. For this broad category, the risk persisted in the most recent time period of diagnosis, 1966-1973 (OR = 18.6). For this broad category, major biases could not be detected when the following additional covariables were taken into account individually where possible: source of occupation, nativity, town of residence, stage at diagnosis, and cause of death. City directory and death certificate information implied that at lest 80% of cases in the high risk category worked in the Connecticut region before age 40. (Author abstract) (33 Refs)

SELECTED PRECLINICAL ASPECTS OF UROGENITAL TUMORS

25. ARTERIAL VERSUS INTRAVENOUS INFUSION THERAPY WITH ADRIAMYCIN IN EXPERIMENTAL RENAL RAT SARCOMA.

Tvete S, Christensen J, Gothlin JH
Dept. Diagnostic Radiology, Univ. Bergen Medical Sch., N-5016 Bergen, Norway
Excerpta Med Int Congr Ser; 575:20-22 1982

Effect of local and systemic administration of adriamycin (Adm) 7 mg/kg body wt was tested on transplantable 20-methylcholanthrene-induced sarcoma in the kidney of rats 6 days after tumor implantation. In 67 animals the drug was administered into the renal artery (ia), in 37 iv, and 30/67 animals received an additional iv infusion of angiotensin II (Ang II). All infusions were administered at a constant rate for 12 min. Frome each of the treatment groups, seven or eight animals were sacrificed at day 1, 2, 4, 6, and 8 after treatment and the av tumor vol was calculated for each sample. At day 4 and 6 after treatment the tumor vol of the ia treated animals was significantly less than that of the iv treated, giving a growth delay of 3 days for ia treatment and 2 days for iv treatment. A small but not significant effect had the addition of Ang II. From day 4 after therapy the growth rate in all treatment groups had recovered to exponential growth. At day 8 no significant difference was observed between the various treatment groups. The tumors attained the vol of the untreated control tumors. According to tumor growth and the accumulation of mitosese the effect of Adm on the tumors was significantly greater with ia than with iv treatment. However the effect of a single infusion was transient. (7 Refs)

26. XENOGRAFTS OF HUMAN BLADDER CANCER IN IMMUNE-DEPRIVED MICE.

Kovnat A, Armitage M, Tannock I
(c/o Tannock) Dept. Medicine, Princess Margaret Hosp., Ontario Cancer Inst., Toronto, Ontario, M4X 1K9, Canada
Cancer Res; 42(9):3696-3703 1982

Human bladder cancer from cystoscopic biopsies and from established cell lines was transplanted into mice that were immune suppressed by thymectomy plus sequential treatment with 1-beta-D-arabinofuranosylcytosine and whole-body irradiation. Each of four established human bladder cancer cell lines generated transplantable tumors in these mice, and some of the mice developed pulmonary metastases. Eight of 33 cystoscopically obtained biopsies of transitional cell carcinoma and one from a metastatic site led to xenografts that grew progressively, and some of these have been transplanted and/or have generated cell lines in vitro. Xenografts grew after a lag period of 6 to 32 wk and had doubling times of 9 to 30 days. All of those examined histologically were consistent with transitional cell carcinoma, but some of the xenografts became more or less well differentiated in first and subsequent passages. The immune-deprived mouse is an alternative host to the nude mouse for generation of human tumor xenografts and may be a useful model for study of biological properties and therapeutic response of human bladder cancer. (Author abstract) (23 Refs)

27. T24 HUMAN BLADDER CARCINOMA ONCOGENE IS AN ACTIVATED FORM OF THE NORMAL HUMAN HOMOLOGUE OF BALB- AND HARVEY-MSV TRANSFORMING GENES.

Santos E, Tronick SR, Aaronson SA, Pulciani S, Barbacid M
Lab. Cellular and Molecular Biology, NCI, NIH, Bethesda, MD, 20205
Nature; 298(5872):343-347 1982

A transforming gene isolated from T24 human bladder carcinoma cells is closely related to the BALB murine sarcoma virus (MSV) onc gene (v-bas). This transforming gene is localized to a 4.6 kilobase pair (kbp) region and is expressed as a 1.2-kbp polyadenylated transcript, which contains v-bas related sequences. Moreover, antisera known to detect the immunologically related onc gene products of BALB- and Harvey-MSV recognized elevated levels of a related protein in T24 cells. The normal human homologue of v-bas was found to be indistinguishable from the T24 oncogene by heteroduplex and restriction enzyme analysis. These results imply that rather subtle genetic alterations have led to the activation of the normal human homologue of v-bas as a human transforming gene. (Author abstract) (48 Refs)

28. INDUCTION OF ORNITHINE DECARBOXYLASE ACTIVITY IN MOUSE URINARY BLADDER BY L-TRYPTOPHAN AND SOME OF ITS METABOLITES.

Matsushima M, Takano S, Erturk E, Bryan GT
(c/o Bryan) Dept. Human Oncology, Wisconsin Clinical Cancer Center, Univ. Wisconsin Center Health Sciences, 600 Highland Ave., Madison, WI, 53792
Cancer Res; 42(9):3587-3591 1982

The responses of female noninbred mouse urinary bladder ornithine decarboxylase (EC 4.1.1.17) (ODC) and S-adenosyl-L-methionine decarboxylase (EC 4.1.1.50) (SAND) activities to L-tryptophan feeding and to topical intraurethral administration of L-tryptophan and some of its urinary metabolities were studied. Mice fed a diet containing 1% L-tryptophan demon-

strated significant increases in vesical ODC and SAMD activities as early as 2 wk after the commencement of the diet. By the end of the 3rd wk, ODC and SAMD activities reached peak values of seven- and three-fold, respectively, significantly greater than the control levels (p less than 0.05 and p less than 0.01, respectively). Then, enzyme activities gradually decreased but remained at levels significantly higher than those of the control mice until the end of the 6th wk when the study was terminated. Topical application by urethral catheter of some urinary tryptophan metabolites was followed by a rapid, transient induction of urinary bladder ODC activity within 5 hr. Statistically significant differences between vehicle controls and xanthurenic acid (p less than 0.01), DL-kynurenine (p less than 0.01), L-kynurenine (p less than 0.01), anthranilic acid (p less than 0.01), and quinaldic acid (p less than 0.05) were observed. However, no significant differences were seen with L-tryptophan, 3-hydroxy-DL-kynurenine, the 8-methyl ether of xanthurenic acid, or D-kynurenine or with 3-hydroxyanthranilic, kynurenic, quinolinic, picolinic, and nicotinic acids. Bladder SAMD was not elevated significantly by most of these directly applied tryptophan metabolites. ODC inducibility by active compounds was followed by mucosal hyperplasia within 7 days. These data suggest that certain L-tryptophan metabolites may be involved in two-stage urinary bladder carcinogenesis in a manner similar to that shown to occur in murine skin tumor systems by other chemicals. (Author abstract) (40 Refs)

29. FLOW CYTOMETRIC ANALYSIS OF R3327 RAT PROSTATE ADENOCARCINOMA GROWN IN VIVO AND IN VITRO.

Claflin AJ, Pollack A, Mallnin T, Block NL, Irvin GL
Dept. Surgery, Univ. Miami Sch. Medicine, P.O. Box 016960, Miami, FL, 33101
JNCI; 69(1):79-87 1982

The Dunning R3327 transplantable prostate adenocarcinoma in the Copenhagen rat is an acceptable model for the human disease. The G-subline (a rapidly growing carcinoma) and the H-subline (a slow-growing, well-differentiated adenocarcinoma) represent the extremes of differentiation and growth rate of this tumor. Both sublines were found to have one population that was diploid and a second aneuploid population that was hyperdiploid in DNA content. The percentage of hyperdiploid cells was significantly higher in R3327-G tumors than in R3327-H tumors. The tumor cell population ratios were stable in vivo, but the in vitro culture conditions supported only cells with diploid DNA content following four to five subcultures. These predominantly diploid cultured cells, when injected into intact male rats, resulted in tumors that had both diploid and aneuploid cells. (Author abstract) (14 Refs)

30. IMMUNOCHEMICAL CHARACTERIZATION OF PROSTATIC ACID PHOSPHATASE WITH MONOCLONAL ANTIBODIES.

Lee CL, Li CY, Jou YH, Murphy GP, Chu TM
Roswell Park Memorial Inst., Buffalo, NY, 14263
Ann NY Acad Sci; 390:52-61 1982

Hybridoma-derived monoclonal antibodies to human PAP have been produced by fusion of mouse myeloma cells (P3x63 Ag8.653) with spleen cells from mice immunized with purified PAP. One hundred fifty-six out of 252 clones were found to produce antibodies against PAP. These monoclonal antibodies were classified into four different subclasses as IgM (3 clones), IgG2a (2 clones), IgG3 (1 clone), and IgG1 (150 clones) with k-chains. Four monoclonal antibodies. IgG1, IgG2a, IgG3, and IgM, were selected from the 156 hybridoma clones for immunologic characterization. Results from a binding assay suggested that monoclonal anti-PAP antibodies IgG1 and IgM recognized two distinct antigenic determinants of the PAP molecule, while the hybridoma IgG2a and IgG3 antibodies recognized another antigenic determinant. The specificity of these four hybridoma anti-PAP antibodies has been evaluated by the immunohistochemical method and competitive-binding assay. Monoclonal antibodies IgG2a and IgG3 as well as polyclonal xenoantibodies were found to react with PAP as well as with nonprostatic acid phosphatases; and antibodies IgG1 and IgM reacted more specifically with PAP. These results indicated that monoclonal anti-PAP antibodies IgG1 and IgM possessed a higher specificity for human PAP in comparison with monoclonal antibodies IgG2a, IgG3, and xenoantibodies. The monoclonal anti-PAP IgG1 and IgM antibodies may be useful in delineating antigenic structure of the PAP molecule, as well as in the refinement of serologic determination and immunocytochemical study of PAP in human prostate cancer. (Author abstract) (22 Refs)

31. GENERAL PROCESS OF INDUCTION OF SQUAMOUS METAPLASIA BY CYCLIC ADENINE NUCLEOTIDE AND PROSTAGLANDINS: MOUSE PROSTATE GLANDS.

Schaefer FV, Custer RP, Sorof S
(c/o Sorof) Inst. Cancer Res., Fox Chase Cancer Center, 7701 Burholme Ave., Philadelphia, PA, 19111
Cancer Res; 42(9):3682-3687 1982

Squamous metaplasia is a common abnormality of cellular development and differentiation in the epithelia of many organs, including the prostate gland in humans. Agents known to elevate the level of intracellular cyclic adenine nucleotide have been found to direct various kinds of epithelial cells onto a pathway of epidermoid (squamous) development and a differentiation marked by keratin production. We report here that the mixture of the cyclic adenine nucleotide; N6,O2'-dibutyryladenosine cyclic 3':5'-monophosphate (0.1 mM); prostaglandins E1, E2, and B1 (each 5 ug/ml); and papaverine (1 uM) induces extensive squamous metaplasia and keratin production in the epithelial cells of mouse ventral prostate glands cultured for 3 wk. The components of the mixture act synergistically. A 10-fold higher concentration of N6,O2'dibutyryladenosine cyclic 3':5'-monophosphate (1 mM) alone is as effective as is the mixture. The presence of either the retinoid, retinylidene dimedone, or the phorbol ester, phorbol-12,13-didecanoate, at 1 uM completely prevents the induction of squamous metaplasia. The results suggest that cyclic adenine nucleotide and indirectly prostaglandins E1 and E2 may play important roles in the spontaneous and exogenously induced production of squamous metaplasia. These same inducing agents have also been found in other studies to bring about squamous metaplasia and keratinization in culture in the mammary glands of mice and the breast tissue of humans, as well as to accelerate normal epidermization in chick embryo skin. The findings in prostate gland, mammary glands, and skin derived from embryonic or adult animals and humans, spanning three species and two classes of vertebrates, suggest that cyclic adenine nucleotide augmented by prostaglandins E1 and E2 may act generally on diverse types of epithelia to bring about normal and metaplastic squamous cell development and a differentiation marked by keratin production. (Author abstract) (50 Refs)

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